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GUJARAT MEDICAL JOURNAL

INDIAN MEDICAL ASSOCIATION, GUJARAT STATE BRANCH

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GMJ

STATE PRESIDENT AND HON. STATE SECRETARY'S MESSAGE

Dear Members,

India with the proactive leadership of Honourable Prime Ministerji and dedicated altruistic services of Modern Medical fraternity has literally just walking out of the disastrous second wave of Covid pandemic. With the global evidence available and the history of any pandemics the third wave is inevitable and imminent. But the past experience of last one and half years of war with the virus and based on the emerging evidences it is obvious with making the universal vaccination reach maximum possible population and strictly adopting to Covid appropriate behaviours we can face the third wave with confidence and mitigate its impact. However, it is painful to note in this crucial time every one need to work for the mitigation of third wave, in many parts of the country both government and public are complacent and engaged in mass gatherings without following Covid protocols. Tourist bonanza, pilgrimage travel, religious fervour all are needed, but can wait for few more months. Opening up these rituals and enabling people without vaccination to go scot free in these mass gatherings are potential super spreaders for the Covid third wave. The consequences of treating a patient with covid in hospital and its impacts on the economy will be much better than the economic loss we suffer with avoiding such mass gathering it is the duty and responsibility of every one at this moment to strictly enforce the covid appropriate behaviours for minimum three more months and ensure every one nearer to our house are getting vaccinated. IMA appeal to state Government to translate the vision of Honourable Prime Ministerji and control any mass gatherings in our state.

IMA welcome the decision by the Government to conduct NEET PG examinations on 11th September. The Ministry and the National Board of examination of Medical Science are taking all possible steps to conduct the exams with adequate Covid protocol and the exams are scheduled to be held in 260 cities and 800 test centers across the country. This will enable almost all the doctors get their exam center at their place of choice. Now it is also important to scale up the process of result publication, counseling and starting of the courses to be as quick as possible and hoping to welcome the new postgraduates by the end of October. The country is in need of manpower in all medical colleges as the final year postgraduates have already on the process of completing their exams.

Along with the center merit list the state merit list shall be also published and all states shall be also motivated to complete the process of admission as per the schedule and guidance. Nearly 1.76 lakhs students are going to participate in this NEET PG examination and IMA wish all the best to them. As the central INCET exams will be over by July 22, the admission process for the All India and state quota shall go without much difficulty.

Long Live IMA, Jai IMA

DR. DEVENDRA R. PATEL
(President, G.S.B.I.M.A.)

DR. KAMLESH B. SAINI
(Hon. State Secy. G.S.B.I.M.A.)

FROM THE DESK OF EDITORS



Dear friends,

While putting this issue of Gujarat Medical Journal (GMJ) in your hands, we are happy that now regularly we are publishing GMJ.

Obviously the Gujarat Medical Journal should look for impact factor which is the next big thing for any scientific journal. To achieve this we need to put in a lot of efforts. We would like to request all the research minded doctors in Gujarat who are in research field to seriously consider GMJ for their manuscripts. We are also making all efforts to make our journal website at par with any leading medical journals. We hope to bring in many more value added features to our journal within a reasonable period of time.

Our country and particularly, Gujarat has entered in the field of medical tourism. People from developed and under developed countries come here for treatment and we provide world best treatment to them at a cheaper rates then that is available in developed countries. Apart from big cities of Gujarat like Ahmedabad, Surat. Vadodra and Rajkot-Bhavnagar, even small centers like Anand and Nadiad provide world class treatment in the field of cardiology and nephrology. Our hospitals and expertise are world class and that pushes the medical tourism in Gujarat far ahead. From our own domestic population also we get large number of patients. This provides opportunities for research to our doctors. Now we have better infrastructure facilities for data collection and access to world data, for comparison. It has provided a big boost to research wok in our state.

Without making any compromise with our laid down policy, we have made all the efforts to make GMJ more informative and more interesting so that large number of our colleagues read it and utilize the knowledge and information provided in it. For this, we welcome your suggestions and comments also.

We would like to thanks Dr . Urvesh Shah (GCS medical college Ahmedabad) in maintaining our indexation status with Index Copernicus International. Dr. Urvesh Shah's painstaking efforts in uploading all the issues of GMJ on Index Copernicus website made them available there. We extend our sincere thanks to our ex editor Dr. Amit P. Shah for helping us and advising us time to time.

Our sincere thanks to GSB president Dr. Devendra Patel and hon. secretary Dr. Kamlesh Saini for encouragement and suggestions and giving us free hand in publication of this journal. We are also grateful to GSB past presidents Dr Kirtibhai Patel, Dr. Jitubhai Patel, Dr. Mahendrabhai Desai and Dr. Yogendrabhai Modi for their guidance and help.

With regards,

DR. K. R. SANGHAVI	**DR. B. I. PATEL**	**DR. HARSHAD C. PATEL**
Editor-IMA-GSB-GMJ	Hon. Secretary -IMA-GSB-GMJ	Jt. Editor-IMA-GSB-GMJ

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SHORT COMMUNICATION

Original Articles

Study of Internet Addiction & Daytime Sleepiness in Medical students & Other Students of Gujarat, India.

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KEY WORDS : Internet addiction; Daytime Sleepiness; Students; Young adults; Sleep

ABSTRACT

Context : Internet has been a boon in modern human history by the benefits it gives to the people, enriching their lives. But It has turned out to be a bane for an equal number of people because it is addictive.Internet addiction is linked with sleep deprivation and consequently day time sleepiness.

Aim : Current study was undertaken to assess the presence of internet overuse and addiction & its effects on sleep in general & daytime particularly. And to compare it between medical students and other students.

Setting - The study was at various graduate colleges within the city of (city name masked for blinding). Total 316 under-graduate students enrolled in the study using random sampling method from 5 educational institutes.

Method : Participants were administered a self-administered questionnaire containing sociodemographic details,Young's internet addiction test (IAT) and Epworth sleepiness scale (ESS).Statistical analysis –Data was collected, tabulated &analyzed using Microsoft Excel worksheet and GraphPad version 3.0. For deriving relation between Internet addiction & daytime sleepiness, Spearman Correlation coefficient was used.

Results : We found that both groups had significant Internet addiction & it was significantly associated with excessive daytime sleepiness. 52% of medical students and 51% of other students were problematic internet users. We also noted that results between both medical student&other student group were almost similar.

Conclusion : The number of problematic internet users is high & leading to daytime sleepiness in both the groups equally, so steps must be taken to reduce the Internet overuse.

Key-message : Internet addiction is clearly present in both groups and it is having significant effect on their sleep as shown by increase in day-time sleepiness. This has to be addressed at the level of educational institutes.

INTRODUCTION

The Internet has been a revolutionary invention empowering thousands of people across the countries. In India, Internet is reaching far corners of the country including the rural areas. Internet usage in the country has exceeded half a billion people for the first time, pegged at 566 million (More than 50% of the population) & India's internet users expected to register double-digit growth to reach 627 million in 2019, driven by rapid internet growth in rural areas.[1] Internet has offered so many advantages to the population. But it has been equally devastating for many people because of its addictive nature. Year by Year the companies are spending Billions of rupees in revenue to get a person hooked on to his Mobile/Laptop screen. And teenagers and college students are usually the easiest targets. In Britain, teenagers now spend about an average of 18 hours a week on their phones, much of it using social media. [2] Kids have 10 times the amount of screen time they did in 2011, and spend an average of six hours and 40 minutes using technology, according to Common Sense Media.[3] 25% of Indians are heavy internet user.[4] In China, 17.2 % of adolescent are problematic internet users & of them, 40% were having sleep disturbances.[5] In South Korea, excessive daytime drowsiness was 5.2 times higher in Internet addicts.[6] It is apparent that all over world Internet addiction numbers are going to rise and so its detrimental effects also rising. Because of the habit of using phones late in night typically in bed too, Heavy internet users usually report sleep disturbances at night. Because it works as a stimulus to the brain and also the blue light emitted from the devices adds to the sleep disturbances. This sleep “deficit” will

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probably reflect in Daytime sleepiness. Kaur et al, a high proportion (45%) of EDTS was observed, and the problem was significantly greater in participants from professional courses.[7] Many studies have been done on the effects of internet addiction on sleep with proven deleterious effects of internet on sleep. However, if this effects on sleep have any relation to daytime sleepiness and therefore on daytime productivity is a less researched area.

So, we undertook this study to determine the presence of Internet Addiction and assess their Sleep disturbances in general and Daytime sleepiness in particular for College going students aged 18-25 in Under-graduate colleges in (city name masked for blinding) City. We also intended to compare Internet addiction and its effect of daytime sleepiness between medical students and other students.

MATERIAL & METHOD

The current study was undertaken at 5 major under-graduate Colleges in (city name masked for blinding) City, Gujarat, India. Students were requested to participate in study during their breaksin small groups randomly.

Study population – Undergraduate students of 5 selected colleges.

Sampling method – Simple Random sampling

Sample size – 300

Inclusion criteria –

1. Student of selected colleges.
2. Age 18 to 25 years.
3. Regular access and use of Internet.

Exclusion criteria –

1. Insomnia due to reasons other than Internet use.
2. Taking any form of treatment containing sedatives.
3. Taking alcohol or any substance on regular basis.

A pre-designed self-administered questionnaire was given to the participants. Questionnaire was in English; all selected institutes were teaching in English medium. They were given enough time to understand the questions and ask any questions arising out of the questionnaire. This questionnaire consisted of three part. Part-1 basic demographic details of the participant, Part-2 Young's Internet Addiction Test 20 question questionnaire and Part-3 about night time sleep and Epworth Sleepiness Scale.

For the Internet Addiction we used Young's Internet Addiction Test, which is 20 items scale which measures severity of compulsive use of internet for adults & adolescents.Very well suited for self-administration, takes only 5 to 10 mins.Scoring - 20 questions to be answered on 5-point Likert scale (1 = rarely, 2 = occasionally, 3 = frequently, 4 = often, and 5 = always); total scores ranging from 20 to 100.That was interpreted as – 0-30- Normal Internet Use, 31-49 – Mild Internet addiction, 50-79 – Moderate Internet addiction &>80 – severe internet addiction.

IAT also measures Salience, Excessive Use, Neglect Work, Anticipation, Lack of Control, Neglect Social Life. However, in current study, we have taken into consideration only Total score. IAT demonstrates good psychometric properties and fits extremely well with our data. The present study provides empirical evidence that the IAT is a valid and reliable instrument for measuring IA.[8]

For Daytime sleepiness, we used Epworth Sleepiness Scale, which is 8 item self-administered scale that measures average sleep propensity in daily life (ASP), or their 'daytime sleepiness'. Respondents are asked to rate all questions in range of 0 to 3, 0 = would never doze, 1 = slight chance of dozing, 2 = moderate chance of dozing 3 = high chance of dozing. Total score 0 to 24. This was interpreted as 0-5 Lower Normal Daytime Sleepiness, 6-10 Higher Normal Daytime Sleepiness, 11-12 Mild Excessive Daytime Sleepiness, 13-15 Moderate Excessive Daytime Sleepiness, 16-24 Severe Excessive Daytime Sleepiness. For our easy interpretation and statistical analysis, we took 0-10 as Normal Daytime sleepiness and 11 to 24 as Excessive Daytime Sleepiness.

Internal consistency & External criterion validity has been extensively proved.Psychometric properties of ESS was tested in Indian university students, results suggest that the ESShas good internal consistency and test-retest reliability for a university population of poor sleepers in India.[9]

Statistical analysis - Final responses were tabulated & analyzed using Microsoft Excel worksheet & GraphPad version 3.0. For comparing the groups demographics like age and sex, mean age was used and Man-Whitney U-test was applied to check if the groups were comparable or not. For determining relationship between Internet addiction & Daytime sleepiness, Spearman correlation co-efficient was used. For other parameters, Average, Percentage and descriptive analysis was used. For all statistical tests P-value <0.005 was considered significant.

Ethical Consideration : As this was observational study, no serious ethical considerations were present,

however the participation in the study was solely voluntary and after informed consent only. Permission for study obtained from Institutional Ethics committee of reputed Medical College with letter no. IEC/27/2019, dated : 11/11/2019.This IEC is registered with Reg. no. ECR/1199/Inst/GJ/2019.

RESULTS

Total 316 students filled up the questionnaire of which 204 were Medical student and 112 were Other students. These observations were analyzed and tabulated.

Mean age of group was 20 years for medical student group & and 21 years for other student groups. 58% medical students were males, 53% of other students were females. The groups were comparable in their demographic pattern as the difference of mean was low and was not statistically significant (Man-Whitney u-test P-value > 0.05).

Mean IAT (Internet Addiction Test) score was 34. 68 & 34.16 for medical students and other students group respectively. 48% medical students & 49% other students were Normal Internet users, 33% of medical students & 32% other students had Mild Internet addiction, 17% medical students and 18% other students had Moderate internet addiction and 2% medical students & 1% other students had Severe Internet addiction.

Mean ESS (Epworth Sleepiness Scale) score was 7.76 & 7.43 for medical students and other students respectively. Difference betweenmedical students and other students group for their IAT score & ESS score was low and was not statistically significant. (Man-Whitney u-test P-value > 0.05), meaning that amongst the group the values of IAT score & ESS Score were almost equal.

Relationship between IAT & ESS Score was established by Spearman correlation co-efficient r. Relation between IAT Score and ESS Score was highly significant when counted for all 316 participants & also for 204 medical students and 112 other students separately. (P-value <0.001). Meaning that with increase in IAT score, ESS

Table 1 : Comparison between Medical students &Other students

Stream	Medical students(n=204)	Other students(n=112)	t/x2/u	P-value
Mean Age	20.26	21.25	10139	0.0975
Male %	58	53	-------	--------
IAT Score, Mean	34.68	34.16	11222	0.7954
ESS Score, Mean	7.76	7.43	10932	0.5264
Duration of sleep at night, mean hours	7.17	6.93	10161	0.1179

Table 2 : Comparison between Groups with Normal & Excessive daytime sleepiness

	Medical students			Other students		
	Avg IAT score	Spearman r	P-value	Avg IAT score	Spearman r	P-value
Normal daytime sleepiness	32	0.3832	<0.001	32	0.4741	<0.001
Excessive daytime sleepiness	44	0.2428	0.8657	43	0.1031	0.053

Table 3 : Time spent most on Screen

Where time is spent most	Medical students (%)	Other students
Watching movies, shows, series	87 (43%)	55 (27%)
Social Media	85 (42%)	52 (25%)
YouTube, Tiktok	47 (23%)	28 (14%)
Online Gaming	32 (16%)	28 (14%)
Studies	18 (9%)	34 (17%)
Others	6 (3%)	5 (2%)

score also likely to be increased. So, people with problematic use of internet have higher daytime sleepiness.

Medical students and other students were subdivided in group with normal daytime sleepiness i.e., ESS Score ≤10, and Excessive daytime sleepiness i.e., ESS score >10. Average IAT Score was 32 for both medical student&other student group's normal day time sleepiness sub group, that was statistically significant.(P-value<0.001). Average IAT score was 44 for Excessive daytime sleepiness subgroup of medical student group, which was not statistically significant. (P-value – 0.8657). Excessive day time sleepiness subgroup of other student group average IAT score was 43, which was statistically weakly significant. (P-value 0.053).

Average duration of sleep was 7.17 hours & 6.93 hours in medical students &other students group respectively. Relation between duration of sleep and IAT score was not statistically significant (P-value 0.2806 & 0.0766for medical student and other student group respectively), meaning that with increase in score of IAT, it does not necessarily mean that duration of sleep is reduced.Difficulty falling asleep and lack of freshness after sleep were major issues reported by those who had sleep disturbances and low duration of sleep.

Regarding time spent screen, students spent most of their time on watching movies, shows & series online & social media, which is almost similar in both the groups.

DISCUSSION

In our study, 52% of medical students and 51% of other students were problematic internet users with mean IAT Score of groups being 35 & 34 in medical students and other students respectively. In our study, both medical student&other student group findings were almost the same. In Maie K et al, Poor sleep quality was found in 54.4% of the participants, whereas Internet addiction was found to be mild in 42.3 %, moderate in 29.9%, and severe in 1.8%.[10] In Singh LK et al, 1%, 13% severe & moderate internet addiction respectively and the mean IAT score was found to be 32. In Banerjee – 85% of medical students were mild, moderate & severely addicted to internet.[11] In Bhandari et al, 36, 36, 21 % students had poor sleep quality, internet addiction & depression respectively.[12] In Lee M et al, among students with internet addiction (17.2%), 51.7% were also identified as insomniacs.[13] This difference in various studies may be due to sampling size and also the time of the study, as the internet is becoming easily available and relatively cheaper than earlier times, the number of internet addiction also rises.

Relation between IAT & ESS scores was statistically highly significant, meaning that with an increase in IAT score, ESS scores also increases. So, Problematic internet use is associated with excessive daytime sleepiness. This is in accordance with many of the previous study like Singh LK et al, where they noted that excessive daytime sleepiness had moderate-to-severe internet addiction, even after controlling for the confounding effects of age and gender.[14] And in Nidhi Nagori et al, Participants with poor quality of sleep were having high IAT scores & Severity of poor sleep quality is positively correlated with internet addiction.[15] Kootesh et al, there is a significant relationship between sleep quality & internet addiction. Internet addiction leads to insomnia, dissatisfaction with sleep & poor sleep quality. [16] In Lin PH et al worse quality sleep noted in moderate & severe Internet addiction.[17] In Jahan SM et al, moderate and severe internet addiction are 75% and 95% less likely to have good sleep quality. [18]

In our study, the average duration of sleep was 7.17 hours & 6.93 hours in medical students &other student group respectively, which had no significant relation with IAT score. In Singh LK et al, mean duration of total nighttime sleep (5.61 ± 1.17) is significantly lower in participants with moderate and severe internet addiction (6.98 ± 1.12) compared to those with no and mild internet addiction. [14] & also in Shimizu T et al, it was found that heavy internet use is associated with reduced sleep duration & sleep quality.[19] In our study the relation between sleep duration and internet use was not found statistically significant, this may be because already the average duration of sleep is higher in our study. And also when people recall their sleep duration it is generally a complete number like 7 hours, 8 hours, but in actuality, sleep is not in complete number, so because of this subjectivity maybe this relation was not found significant.

In our study, students spent most of their time watching movies, shows & series online & social media, which is almost similar in both the groups. It was noted that those spending the most time on movies and games online have poor sleep quality reflecting in day time sleepiness. In Chaudhari B et al, students spent most of their time in social media followed by watching videos & porn.[20] Kim SY et al found that less sleep was significantly associated when internet was used for leisure, but not when internet use was for study.[21] This study in particular being that of a population-based survey focusing on the effects of internet on daytime sleepiness based on the type of internet use can be considered a significant finding.

In our study, Average IAT & ESS scores were higher in males compared to females, which was statistically significant on man-Whitney u-test. This is in accordance with Younes F et al, who also found a higher prevalence of Internet addiction in males.[22] This again maybe because males are more prone to addictive behaviors like online gaming, watching porn and videos.

CONCLUSION

Significant proportion of students, both medical students &other students have problematic internet use and it is also associated with daytime sleepiness. The findings of both the medical student & other student group were almost similar & comparable. So, it is safe to conclude that internet addiction and its deleterious effects are common in both groups.

LIMITATIONS

The sample size was the limitation, would like to do this study in a larger sample size with different streams of students involved in the survey. Also being a subjective survey, there is also a significant chance of recall bias.

REFERENCES

1. Excerpts from ICUBE 2018 report, 21st edition as quoted in Economic Times. Downloaded https://economictimes.indiatimes.com/tech/internet/internet-users-in-india-to-reach-627-million-in-2019-report/articleshow/68288868.cms?from=mdr . on 02/07/2019.
2. From BBC NEWS. https://www.bbc.com/news/technology-44640959. Downloaded on 02/07/2019.
3. From VOX. https://www.vox.com/2018/8/8/17664580/persuasive-technology-psychology. Downloaded on 02/07/2019.
4. Islamie Farsani, S., Allahbakhshi, K., Valipour, A. A., & Mohammadian-Hafshejani, A. (2016). Some Facts on Problematic Internet Use and Sleep Disturbance among Adolescents. Iranian journal of public health, 45(11), 1531–1532.
5. Tan Y, Chen Y, Lu Y, Li L (2016). Exploring Associations between Problematic Internet Use, Depressive Symptoms and Sleep Disturbance among Southern Chinese Adolescents. Int J Environ Res Public Health,13(3): E313.
6. Choi K, Son H, Park M, Han J, Kim K, Lee B, Gwak H (2009). Internet overuse and excessive daytime sleepiness in adolescents. Psychiatry Clin Neurosci, 63(4):455-62.
7. Gurjeet Kaur, Amarjeet Singh, Excessive daytime sleepiness and its pattern among Indian college students. Journal of Sleep Medicine. 2017; 29:23-28. https://doi.org/10.1016/j.sleep.2016.08.020
8. Dhir A, Chen S, Nieminen M. Psychometric Validation of Internet Addiction Test with Indian Adolescents. Journal of Educational Computing Research. 2015;53(1):15-31. doi:10.1177/0735633115597491
9. Veqar Z, Hussain ME. Psychometric analysis of Epworth Sleepiness Scale and its correlation with Pittsburgh sleep quality index in poor sleepers among Indian university students. Int J Adolesc Med Health. 2018;31(2) :/j/ijamh.2019.31.issue-2/ijamh-2016-0151/ijamh-2016-0151.xml. Published 2018 Jul 26. doi:10.1515/ijamh-2016-0151
10. Maie Abdulrhman Khayat et al, Sleep Quality and Internet Addiction Level among University Students. The Egyptian Journal of Hospital Medicine, October 2018; 73 (7), 7042-70.
11. Indrayudh Banerjee, Vinod Arora (2018) A cross-sectional study on prevalence of obesity and Internet addiction disorder among medical students in a tertiary care establishment at Indore. International Journal of Medical Science and Public Health, 7 (5), 408-412. doi:10.5455/ijmsph.2018.1232322122017
12. Bhandari et al., Sleep quality, internet addiction and depressive symptoms among undergraduate students in Nepal. BMC Psychiatry. 2017; 17: 106.
13. LEE M. CHEUNG and WING S. WONG. The effects of insomnia and internet addiction on depression in Hong Kong Chinese adolescents: an exploratory cross-sectional analysis. J. Sleep Res. (2011) 20, 311–317. doi: 10.1111/j.1365-2869.2010. 00883.x
14. Singh LK, Suchandra KH, Pattajoshi A, Mamidipalli SS, Kamal H, Singh S, et al. Internet addiction and daytime sleepiness among professionals in India: A web-based survey. Indian J Psychiatry 2019; 61:265-9.
15. Nagori N et al. "Association of sleep quality and internet addiction among the medical students". Int J Res Med Sci. 2019 Jul;7(7):2703-2707.
16. Kootesh, B.R. & Raisi, M. & Ziapour, Arash. (2016). Investigation of relationship internet addict with mental health and quality sleep in students. 32. 1921-1925.
17. Lin, P. H., Lee, Y. C., Chen, K. L., Hsieh, P. L., Yang, S. Y., & Lin, Y. L. (2019). The Relationship Between Sleep Quality and Internet Addiction Among Female College Students. Frontiers in neuroscience, 13, 599. https://doi.org/10.3389/fnins.2019.00599
18. Jahan, S.M., Hossain, S.R., Sayeed, U.B. et al. Association between internet addiction and sleep quality among students: a cross-sectional study in Bangladesh. Sleep Biol. Rhythms 17, 323–329 (2019). https://doi.org/10.1007/s41105-019-00219-y
19. Shimizu T (2012). Sleep habits and its relation to depression. Nihon Rinsho,70(7):1206-10.
20. Chaudhari, B., Menon, P., Saldanha, D., Tewari, A., & Bhattacharya, L. (2015). Internet addiction and its determinants among medical students. Industrial psychiatry journal, 24(2), 158–162. https://doi.org/10.4103/0972-6748.181729
21. Kim SY, Kim M-S, Park B, Kim J-H, Choi HG (2018) Lack of sleep is associated with internet use for leisure. PLoS ONE 13(1): e0191713.https://doi.org/10.1371/journal.pone.0191713
22. Younes F, Halawi G, Jabbour H, El Osta N, Karam L, Hajj A, Khabbaz LR (2016). Internet Addiction and Relationships with Insomnia, Anxiety, Depression, Stress and Self-Esteem in University Students: A Cross-Sectional Designed Study. PLoS One,11(9): e0161126.

Original Articles

Belief & Behaviour regarding road safety discipline among college going two-wheeler riders in Ahmedabad city - a cross sectional study

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KEY WORDS : Belief & behaviour; Road safety discipline; Two-wheeler riders

ABSTRACT

Background : Road Traffic Accident (RTA) refers to any accident involving at least one vehicle on road open to pubic circulation in which at least one person is injured or killed. Road traffic injuries constitute a major public health burden with significant consequences on mortality and morbidity, and significant health and socioeconomic costs. The majority of two-wheeler riders involved inroad accidents are young people, who generally tend to adopt risky attitudes and behaviors. **Materials & Methods** : A cross-sectional study was conducted among randomly selected 502 college going two-wheeler riders rom, the then, six zones of Ahmedabad city. A pre-tested, pre-designed proformawas used to assess belief &behaviour of participants.

Results : Out of 502 participants 47.81% were boys and 52.19% were girls with mean age of 19.4(±1.5) years. There were gaps between belief and actual behaviour on road regarding road safety discipline in study group. The gap was 45 % regarding mobile phone use, 30.9% regarding valid licence and 22.9 % regarding standard ISI mark helmet use while driving. In study, 84 % participants agreed for basic life support training to help casually at road side.

Conclusion : There was gap between what the youngsters believe and how they actually behave on road regarding road safety discipline. This could be reduced by sensitization and proper training / retraining on road safety.

INTRODUCTION

An accident has been defined as “An unexpected, unplanned occurrence which may involve injury”.[1] Road Traffic Accident (RTA) refers to any accident involving at least one road vehicle occurring on road open to pubic circulation and in which at least one person is injured or killed.[2] The Global Status Report on road safety (2018) counted 1.35 million annual deaths due road traffic accidents.[3] India accounts for almost 11% of the accidents related deaths in the world.[4]

Over 30 % of those killed and injured in RTAs belongs to younger age group.[5] Young age, over speed, reluctance to wear helmet, drink & drive, using mobile while driving are some of the important human factors associated with RTAs. There is a strong relationship between the increased vehicle speed and risk of crash and injuries.[6] Head injury is very common in two wheelers.[7] A study among motorcyclists in Kerala, India by Shreedharan J et al. revealed that only 31.4% participants used a helmet.[7] A study among traffic accident victims of all age group in New Delhi, India by Banerjee et al. revealed that 31% were the victims of head injury.[8] Failure to use helmet, use of non-standard helmet or improperly secured helmet is a factor for injury or death in RTA seen in a number of Asian countries, including India.[6]

Hence, it is very important to identify the gaps between belief and actual behavior among young generation regarding road safety. This could help to bridge this gap for prevention of injury and death due to RTAs in this group. With this background this study was conducted.

METHODS

This cross-sectional study was conducted in year 2018, among, the then, 6 zones of Ahmedabad, the largest city of Gujarat. Sample size was calculated based on 22.6% population-based prevalence of helmet use in motorcyclists as studied in India.[9] After collecting list of colleges available in Ahmedabad city from Gujarat university, one/two colleges were selected from each zone by random number method. From each college one / two classes from among the 1st, 2nd and 3rd years were

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Results :

Figure - 1 : Gender distribution of study group (N=502)

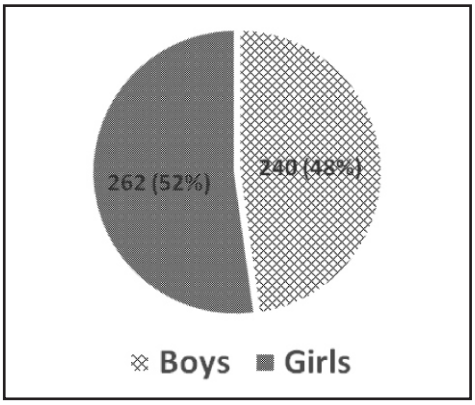

Figure -1 :
shows that out of 502 participants, 240 (47.8%) were boys and 262 (52.2%) were girls. The mean age of study participants was 19.4(±1.5) years.

Table 1 : Belief Regarding Road Safety Discipline Among Study Participants. (N=502)

No	Belief (Yes response only)	Boys (n=240)	Girls (n=262)
1	One should have valid license for driving two wheeler	230 (95.8%)	254 (96.9%)
2	One should wear helmet while driving two wheeler	234 (97.5%)	254 (96.9%)
3	One should use helmet with ISI mark while driving two wheeler *	209 (87.1%)	183 (69.8%)
4	Normal speed limit should be 40 to 60 km/hourwhile driving two wheeler	213 (88.8%)	223 (85.1%)
5	One should not use mobile phone while driving two wheeler	226 (94.2%)	248 (94.7%)
6	One should show side light indicator for turn while driving two wheeler*	224 (93.3%)	219 (83.6%)
7	Young people are most affected in RTA	212 (88.3%)	228 (87.0%)
8	Drink & drive can lead to accidents	233 (97.1%)	249 (95.0%)
9	Basic life support training should be given to youngsters for saving life in RTA	201 (83.8%)	220 (84.0%)
10	Only two persons should ride on two wheeler vehicle	219 (91.3%)	234 (89.3%)
11	Pedestrian should be given priority while crossing road	222 (92.5%)	244 (93.1%)

* p-value is <0.05

Table 2 : Behaviour Regarding Road Safety Discipline Among Study Participants.(n=502)

No	Behaviour (Yes response only)	Boys (n=240)	Girls (n=262)
1	Do you have a valid license for driving ?*	154 (64.2%)	175 (66.8%)
2	Are you wearing helmet while driving ?	214 (89.2%)	232 (88.5%)
3	Are you wearing helmet with ISI mark ?*	151 (62.9%)	126 (48.1%)
4	Are you frequently over-speedingvehicle ?*	222 (92.5%)	199 (76.0%)
5	Are you using mobile while driving ?*	140 (58.3%)	108 (41.2%)
6	Are you using side light while taking a turn ?	231 (96.3%)	256 (97.7%)
7	Are you performing stunts while driving ?	18 (7.5%)	10 (3.8%)
8	Are you regularly following the traffic signal ?	218 (90.8%)	242 (92.4%)
9	Ever held by traffic police for violating any traffic rule ?*	104 (43.3%)	58 (22.1%)
10	Ever suffered from an accident in past ?	44 (18.3%)	36 (13.7%)

*p-value is <0.05

Table 3 : Gap Analysis Regarding Belief & Behaviour about Road Safety Discipline Among Study Participants According to Gender. (N=502)

No	Variable	Boys (n=240)			Girls (n=262)		
		Belief	Behaviour	Gap	Belief	Behaviour	Gap
1	Regarding valid licence	95.8%	64.2%	31.6%	96.9%	66.8%	30.1%
2	Regarding helmet wearing	97.5%	89.2%	8.3%	96.9%	88.5%	8.4%
3	Regarding standard / ISI mark helmet	87.1%	62.9%	24.2%	69.8%	48.1%	21.7%
4	Regarding normal speed limit	88.8%	7.5%	81.3%	85.1%	24%	61.1%
5	Regarding mobile phone use	94.2%	58.3%	35.9%	94.7%	41.2%	53.5%

selected randomly. All the students of these classes were included in study, excluding those who didn't give consent or those who remained absent on the day of data collection. A pre-tested & predesigned proforma was used for collecting datato know belief & behaviour regarding road traffic accidents, traffic rules & regulations and road safety measures among study group. The proforma included socio-demographic characteristics like age, gender, belief & behaviour towards helmet use, driving license, normal speed limit, drink & drive, mobile phone use while driving etc. Total 502 students were requested to fill the proforma after taking informed consent. Data entry was done by using Microsoft Excel 2016. The data obtained were analyzed using Epi-info software. Proportion andChi-square tests were applied for statistical analysis. Tests were considered significant when 'p' value was <0.05.

Table -1shows that 95.8% boys and 96.9% girls believed to have valid driving licence for riding two wheelers. More boys (87.1%) compared to girls (69.8%) believed that standard (ISI marked) helmet should be worn while driving two wheelers which was statistically significant. Equal number of boys and girls (94.2 % Vs 94.7%) believed not to use mobile while driving two wheelers. 83.8 % boys and 84 % girlsbelieved that basic life support training should be given to youngsters for saving life in RTA.

Table- 2shows that out of 240 boys only 154 (64.2%) and out of 262 girls only 175 (66.8%) had a valid license for driving two wheelers.Only 151(62.9%) boys and 126 (48.1%) girls were wearing ISI mark helmet while driving which was statistically significant. 140 (58.3%) boys and 108 (48.2%) girls used mobile while driving. 104 (44.3%) boys and 58 (22.1%) girls were ever hold by traffic police for violating traffic rules.

Table – 3shows that there was a gap between what the youngsters believe and how they actually behave on the road. The gap is 45 % (35.9% boys & 53.5% girls)regarding mobile phone use, 30.9% regarding valid licence and 22.9 % (24.2% boys & 21.7% girls) regarding ISI mark helmet use while driving.

DISCUSSION

World-wide, road traffic injuries have been reported to be the leading cause of death among young people aged 15-29 years.[10,11] Focus should be to identify the major road safety issues and discuss counter measures that would have potential to address the road safety problems.[12] This study was conducted to know belief and behaviour regarding road safety among 502 randomly selected college going two wheeler riders.

In the present study 65.5% participants hadvalid driving license compared to the study done by Ranjan DP[13] et al. in Raichur city of Karnataka, India among adolescent students in whichonly 7.7% of study participants hadvalid driving license. In study done by PhanindraD[14] et al.in Guntur, Andhra Pradesh, India among college going students this result was 79.11%.

In the present study 83.86% participants drive their two wheelers at normal speed limiti.e.40-60 km/hr.In study done by Phanindra D[14] et al.48.7% participants were driving two wheelers at normal speed. In study done by Ranjan DP[13] et al. reported that 55.6% of study participants were following normal speed limit while driving. Reasons for over-speeding in present study could be due to being in hurry, to race with friends, to feel thrill and to impress others.

In the present study around 88.8% (89.2% boys and 88.5% girls) participants were found wearing helmet compared to the Ranjan DP[13] in which only 22.4% of

study participantsused helmetwhile in study done by PhanindraD[14]et al. 46.0% participant used helmet. Wearing a helmet correctly can reduce the risk of death by almost 40% and the risk of severe injury by over 70%.[5] Section 129 Motor Vehicles Act '88 states that every person driving or riding otherwise than in a side car, on a motor cycle of any class or description, shall, while in a public place, wear protective headgear conforming to the standards of Bureau of Indian Standards.[15] Reasons for not wearing helmet could be heavy weight of helmet, feeling heat and suffocation, difficulty in holding helmet before and after ride, visual limitations while riding. Injuries to the head and neck are the main causes for severe injury, disability and death among two wheelers. In some countries head injuries are estimated to account for up to 88% of such fatalities.[16] Helmet aims to reduce the risk of serious head and brain injuries by reducing the impact of a force or collision to the head. The correct use of a helmet considerably decreases the risk and severity of head injuries.[16]

In present study 49.40% participants used mobile while driving and in study done by PhanindraD[14]et al.thiswas 52.44%.In study conducted by apex industry body Assochamfound that over 65 % of two-wheeler riders have been found to be using mobile phones, texting and listening to music while driving on Ahmedabad roads.[17] This behaviour could be due to attending urgent calls and put them at high risk for RTA. It is also observed nowadays that most of the students use earphones for listening music while driving. This kind of behaviour is dangerous not only for driver but public also and needs corrective measures.

In present study there were significant gaps, gender wise also, between what youngsters believe and how they actually behave on roads particularly in helmet use, over speeding, use of two-wheeler indicators while turning the vehicle, use of mobile phone while driving. The non availability of standard helmet, high cost, and callous approach in implementation of traffic rules could be the reasons reflected in the behaviour regarding helmet use. In present study helmet use wasseen more in boys compared to girls. Do girls with long hair face physical discomfort while wearing helmet? How can we design girl friendly helmet? These issues need to be addressed with availability of newer technology in current gender sensitive society.

In present study 83.8% boys and 84% girls believed that basic life support training should be given to them. If proper first aid is given during “golden hour” i.e. first hour after trauma, road accident victimshave a greater chance of survival and reduction in the severity of their injuries.

This cross sectional study has limitations. The findings of this study can't be extrapolated for all adolescents as it was done only on college going group. Like any other qualitative questionnaire based study there are chances of false positive (over estimation) results when addressing belief and behavior issues. Actual road side observational study can provide valid estimation of actual behavior. The authors suggest multiple observational studies with larger sample size on this issue. But findings of this study could be used as baseline for better planning and implementation of road safety guideline in large chunk of college going two-wheeler students.

CONCLUSION AND RECOMMENDATION

There is gap between belief and behaviour in connection to road safety discipline in study group. This could be reduced by proper training / retraining on road safety discipline, periodic road safety awareness campaigns and strict implementation of traffic laws. A component of first aid in training would make this group available for immediate care for casualty at road side in the event of road traffic accident.

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REFERENCE

1. Hogarth J. (1978). Glossary of Health Care Terminology, WHO, Copenhegan.
2. Definition - Road accidents, National Institute of Statistics and Economic Studies.Available at : https://www.insee.fr/en/metadonnees/definition/c1116Retrieved on30/01/2021
3. Global status report on road safety 2018. Geneva: World Health Organization; 2018.
4. Road Accidents in India 2019. Ministry of road transport and highway transport research wing. Available at: www.morth.nic.inRetrieved on 30/01/2021
5. Park K. Park's Textbook of preventive and social medicine, 25th edition. Jabalpur: Bhanot Publisher; 2019 pp.436-438.
6. RajvirBhalwar, Textbook of community medicine, 2nd edition. Wolters Kluwer, 2018. P.824.
7. Sreedharan J, Muttappallymyalil J, Divakaran B, Haran JC. Determinants of safety helmet use among motorcyclists in Kerala, India. J Inj Violence Res. 2010;2(1):49–54.

8. Banerjee KK, Agarwal BB, Kohli A, Aggarwal NK. Study of head injury victims in fatal road traffic accidents in Delhi. Indian J Med. Sci. 1998; 52(9): 395-8.
9. Wadhwaniya S, Gupta S, Tetali S, Hyder A. The validity of self-reported helmet-use among motorcyclists in India. Inj Prev. 2012;18(Suppl 1):A197.2-A197.
10. United Nations Decade of action for road safety 2011-2020
11. WHO (2013)Road Traffic Injury Facts sheet no 358
12. Singh SK. Road Traffic Accidents in India: Issues and Challenges. Transp Res Procedia [Internet]. 2017;25(December):4708–19. Available from: http://dx.doi.org/10.1016/j.trpro.2017.05.484
13. Ranjan DP, Fahim MA, Kirte RC. A cross sectional study to assess the knowledge, attitude and practice towards road traffic safety among adolescent students of a selected Pre-University college in Raichur city. Int J Community Med Public Heal. 2018;5(6):2446.
14. Dulipala DP, Gujjarlapudi DC. Awareness and practice of road safety measures among college going students in Guntur City. Public Heal Rev Int J Public Heal Res. 2016;3(2):54–8.
15. Section 129 in Motor Vehicles Act - Wearing of protective headgear-Available at: www. Indian LawsInfo.com Retrieved on 30/01/2021
16. Helmets: a road safety manual for decision-makers and practitioners. Geneva, World Health Organization, 2006.
17. Assocham India. (2015). The Associated Chambers of Commerce & Industry of India. Available at http://www.assocham.org/newsdetail. Retrieved on 30/01/2021

Original Articles

ABCDs of battling against COVID-19

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INTRODUCTION

World has declared an unprecedented war of recent times, against a deadly virus disease i.e. Covid 19. Covid-19, as we know, strikes in a rhythmic way i.e. in form of wave-I / wave-II. Many scientists have predicted the arrival of the third wave. Behavior of the masses, vaccination status, herd immunity, novel mutations of the virus, seasonal changes & environmental factors etc. are key points which will decide the further waves and the outcome. Since the Covid-19 menace is still rampant, there is no time for complacency; rather we need to be properly armed with knowledge on how to fight this infection. This can be nicely summed up in- Prevention is better than cure since there are a myriad of unknown post COVID complications which are difficult to deal with. Also, apart from COVID, there are other demons to be fought, like- Fear, Negativity, Ignorance as well as the myths created by different media. Through this article we aim to address golden clues on prevention along with other burning issues with tips on how to fight against fear, negativity and how to emerge as strong positive people. Most important protective weapons to remember- Mask is our vaccine, Sanitization is our medicine and physical distancing is our immunity.

The aggressive COVID-19 pandemic with its uncertainty has imposed great mental distress on the general population, the patients, healthcare providers as well as government & administration. The pandemic and its constant reporting in the media have increased psychological problems such as anxiety, depression, and insomnia. Positive mental health and positive attitude are of paramount importance.

EPIDEMIOLOGY OF COVID WAVES

Indian scenario

- First cases in India were detected in three medical students around 30th January 2020 who had returned from Wuhan.
- In view of increasing cases , nationwide lockdown was imposed on 25th march which subsequently was taken off stepwise and it led to significant reduction in number of cases . Peak of new cases was seen in September and then first wave got contained in next few months.
- Slowly all the restrictions were lifted off with reopening of facilities, social gathering at marriages, festive activities, election rallies and sporting events. Simultaneously , new covid variants started appearing in month of January like Delta variant (B.1.167.2) and alpha variant (also called UK variant – B.1.17)
- All these culminated into the second wave of covid with progressive rise in new cases by February month and peak was seen in May 2021. However now in June ,it seems to be contained. Vaccination seems to play a major role which was initiated nationwide from 16th jan 2021.

What about 3rd wave ? Will it come ?

- On 5th may, Principal scientific advisor to Govt. of India stated that phase 3 is inevitable.
- It has already been there in countries like USA , UK , Italy.
- It seems likely that herd immunity from natural infection is variant specific .
- Epidemiologists have used susceptible infected recovered model and fractional interpolation model and predicted that 3rd wave will start by first week of August, it could be severe affecting young ones (mainly because they are as yet not vaccinated), and end in October with a peak in September. There may be new variant strains like delta plus.

Following “ABCD…” is a unique approach of creating Appropriate Behavior against Covid (ABC) in form of prevention, fighting against fear-stress & negativity and for battling against COVID-19. This requires Discipline, Self control, patience, courage, obedience and Compassion.

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A's: Appreciation, Alertness, Attention, Acknowledge (feelings & share), Awareness

Appreciate care givers and healthcare workers like Doctors, Nurses, Paramedics & frontline workers for supporting people affected with COVID-19 in your community. Acknowledge the role they play in saving lives and keeping your loved ones safe !

During uncertain times, information overload could happen, resulting in stress and anxiety. So, remaining attentive in getting the right information from reliable sources is the key.[1] Get the facts; not rumors and misinformation. Be alert. Do not spread the rumors and speculations.

B's: Be positive (Corona Negative), be bold, be physically active, Balanced diet, Book Reading

- Choose to focus on the positive things in your life, instead of dwelling on how bad you feel. Maintain a sense of hope, work to accept changes as they occur and try to keep problems in perspective.[2]
- Think of the best and beautiful things, speak the choicest best words & do your best. Always be impeccable and kind with your words.
- Staying physically active not only keeps your body healthy physically (keeping your risk of chronic health issues down and lowering your chances of acute illness, like COVID-19), it also helps in elevating mood and well-being
- Be a role model for children & neighbors

Have well-balanced, nutritious meals. Some of the food items which can help us keep healthy & burst stress are: Mediterranean, DASH diet & MIND diet emphasize adequate intake of fresh fruits, leafy green vegetables, legumes, berries, olive oil and nuts. Eat more proteins, less carbs and minimum fats. Watch calorie consumption consciously. Avoid non-vegetarian food. Take more water. Recent research has shown the efficacy of 'MIND Diet' in reducing cognitive decline. It is scientifically approved nutritional plan for triggering memory & Boosting brain functions & proven to be cardio-protective.

C's: Compassion, Care, Creativity, Calm, Counselling, Caution, Cultivate happiness

Be extra kind to others. This is a hard time for everyone. Humans across the world are sharing this experience with you. Let us share & care as we may all emerge with a renewed appreciation for our interconnectedness. Helping others in need is both critical to get through this well, and also creates more purpose to our lives and well-being.

Communicating with our dear and loved ones make us feel safe. Meet friends physically with a safe distance while wearing masks. Make a phone call, send a text, email or a letter & appreciate. Be supportive and offer words of encouragement. Communicate with full empathy. Care for elderly people.

Social Distancing is actually a misnomer, it is actually about physical distancing ,while we must work hard to stay socially connected. Let's switch the phrase!

D's: Disciplined behavior, Drug, Devotion, Donation

As responsible citizens, we all must display disciplined appropriate behavior against covid. Also try to donate as much as you can from your savings for Corona relief funds. Our little efforts can bring huge difference into lives of many people.

Devotions are a great way to get closer to Supreme soul. A devotion is a quiet time that you spend praying, reading God's word, chanting and reflecting on your relationship with Him. Research has shown that pursuing path of religion and spirituality can help people cope with the effects of everyday stress.

E's: Exercise: Yoga, Pranayam; Educate: Social distancing, Mask, Hand washing: Etiquette & hygiene

Exercise releases endorphins and serotonin (hormones that make you feel good!), sharpens memory, and aids sleep. Staying physically active with exercise also lessens the risk of mood disorders, boosts energy, improves mood overall.

"Yoga" is not just a form of exercise but is a lifestyle for those who are immersing and expressing the principles of yoga in their day-to-day life.

Yoga help us to improve our health:

- √ It helps to de-stress, rejuvenate, feel energetic and fight negativity
- √ The breathing techniques help to improve lungs health & keep our minds calm
- √ Daily Yoga practice gives stability, flexibility and stretching capacity
- √ It also helps to heal chronic pain (e.g.: back pain)
- √ It helps regularize digestive, endocrine and autonomic nervous systems
- √ It helps stabilize blood pressure, pulse and respiration

Educate people with facts, share facts. Educate how important, it is to practice rules of safety against corona via physical distancing, wearing masks & sanitization which are vital things for protection. Distancing is our immunity, mask is our vaccine & sanitization is our

medicine. These are unfailing protective weapons against covid. Educate face, nose and hand hygiene.

F's: Fight Fear, Follow friends, Forgive people, Finance handling

Have no fear. We all are together in this tough time! This too shall pass one day. If you have too much anxiety and fear, seek psychiatry help sooner.

Letting go of grudges and bitterness can make way for improved health and peace of mind. Life is too short, there isn't enough time to love & appreciate people. Be non judgmental in judging & criticizing others. Please remember while it's nice to be right, it is more important to be kind. Forgiveness can lead to:[3]

- √ Healthier & better interpersonal relationships
- √ Improved mental health
- √ Less anxiety, stress ,depression and hostility
- √ Lowe r blood pressure
- √ A stronger immune system
- √ Improved heart health and self-esteem

Friends are the most beautiful gifts given by God. True friends are angels & protect you from everything. Find time each day to make virtual connections by phone, or Face Time or email or texts. If you're working remotely from home, ask your co-workers how they're doing and share coping tips.

Take time to look after your financial health. In current time, it's a core competence.

G's: Generosity, Gratitude, God (surrender), Gargles

Be generous in your act. Generosity is a great virtue. Give your belongings to those who are needy. Give money, time, clothes, medicines, kind words to those who need them the most. While giving, feel grateful that you are in a position to help people. Do not give with Ego or pride. Please don't discriminate. Practice gratitude .We are thankful to COVID-19 it has taught us adjustment and reduce our needs.. We are thankful to our front line health care warriors, policemen, & all others who are working day & night relentlessly for the safety of society. Thank God and express your gratitude to God before you go to sleep. Consider starting each day by listing things you are thankful for. Be grateful of each little things that you have !

Also remember Saline / Povidone iodine gargles is a good habit to fight against covid-19

H's: Happiness, Humanity, Hospitalization,Health tips, Hot water

Happiness is the purpose of life, whole aim & end of human existence. Happiness is ultimately a state of mind that comes from good health, good relationship management, virtues like gratitude, appreciation, compassion, truth and nonviolence and also by inner experiences through spiritual practices. Remember You are in charge of your own happiness & nobody else. “Happiness is not about getting all you want, it is about enjoying all you have.”

This time has made us rethink importance of our congenial coexistence with all life forms on this planet – other humans, living beings, & the earth itself. What is good for all living beings and the earth is virtually always in the best interest of humans, given the profound interconnectedness of all life. Ultimately, the survival, not only of other life forms on this planet, but also of our own, will depend upon our ability to recognize the oneness of all that exists and the importance, deeper significance of compassion for all life.[4] Live and let live.

Good nutrition , good digestion, proper sleep ,stress-free lifestyle and optimum exercise help boost our immunity & mood.

Patients with below characteristic are at higher risk need early hospitalization and early treatment.

- People who are elderly or have Comorbidities like Chronic lung disease /asthma ,Coronary artery disease or other heart ailments like CHF, Diabetes. Obesity, Immuno-compromised status including Cancer or AIDS .

I's: Immunity enhancers (Medical, Ayush including Ayurveda & Homeopathy)

A balanced diet fortified with Vitamin C, D, & A, Iron & Zinc are immunity boosting agents

Ayurveda, the traditional medicine system of India, has a huge potential in preventive and curative healthcare.

Ayurveda has depicted various rules and regimens (Charya), regarding diet and behavior to acclimatize seasonal enforcement easily without altering body homeostasis. Nasya (instillation of medicated drops) into the nose and Kavala Gandusha (gargling of mouth) are some of the daily regimens mentioned in classics are effective in maintaining nasal and oral hygiene.[5] Usage of turmeric, Cumin, Coriander, Saunth, piperamul, Ashwagandha, Guduchi & Yashtimadhu also boost up body's natural deference system.

J's: Jovial[6]

Always wear that lovely smile on your face. Be with people, with whom you can be yourself. Cherish wonderful memories that makes you happier.

Crack down jokes at your own-selves, laugh and make people laugh . Be happy and enjoy simple pleasures & enjoy present moments. Life is really Beautiful.

K's: Kindness

Kindness is an ornament of heart. In runs in some families as a genetic trait!

As stress goes up, a person's tolerance can go down. Try to be patient, kind and helpful. Do what you can to have a positive influence on others. Remember one small act of kindness can help changing many lives & uplift your soul.

L's: Love, Laughter, Light

Love people & love each and every living sentinel being of this earth. Love heals us. Love people genuinely, each living being deserves to be loved & cared for!

A good belly laugh doesn't just lighten the load mentally. It lowers cortisol, our body's stress hormone, and boosts brain chemicals called endorphins, which help elevating your mood. Laugh from your core of existence.Laugh at yourself. A cup of coffee with family or friends is all you need to bring your stress levels back to normal.[7]

Spend time playing games or music with children.[8]

M's: Medication, Meditation, Music & Mantra Chanting.

Regular practice of meditation daily over 30-45 minutes can enhance your cognition , reduce thoughts, desires & perversions. It can control ego, bad attitude, reduce greed & anger, which are the root causes of our miseries. Meditation can help reduce stress, calm our mind, ease symptoms of depression and anxiety, and regulate negative thinking. Meditation is a great boon, a way of connection to Higher being & cosmic energy that connect us all together.

If you have an underlying health condition, make sure to have enough extra storage to medications that you are currently using.[9] Continue with medications for your chronic disorders without fail under guidance of your doctors.

Music is a type of meditation and it heals the soul. . Music therapy employs music to help people cope with physical or emotional needs, and it's actually been found to lessen symptoms in people with mood problems, such as anxiety and depression, and can lift self-esteem.[10] Chanting a mantra with mindfulness can go a long way in healing.

N's: Nurture the nature, new skill development, Non-violence

We must nurture the nature at any cost. Nature has a solution for almost everything. Researchers have found that as little as 10 minutes spent with serene nature can help one feel happier and lessen the effects of both physical and mental stress.[11]

Corona pandemic & other natural calamities like earthquakes, tornado have proven the supremacy of nature over mankind & these calamities are simply outcomes of imbalance in nature. Nature is warning us through pandemics, greenhouse effect etc.

COVID-19 has given plenty of idle time to all. It is advisable to be patient and effectively utilize this time for creativity, hobbies or for developing a new skill.

- √ Pursuing Hobbies like reading, singing, dancing, drawing, tree plantation, craft and art work, etc.
- √ Learning new skills like cooking, appearing for online exams, sports ,reading inspirational books, studying online courses, Learning new language, developing a new creative hobby etc.
- √ Extensive reading in areas of interest, carrying out research, writing articles & Blogs

Practice non-violence both physically & mentally. Be impeccable with your words so as not to hurt or offend anybody. Non violence is the fundamental key of all religions.

O's: Optimistic outlook

Choose to focus on the positive things in your life, instead of dwelling on how bad you feel. Optimistic outlook is very important to live a balanced life.

Maintain a sense of hope, work to accept changes as they occur and try to keep problems in perspective.

Optimism, in the COVID-19 context, will operate through enhancing one's efforts to directly improve coping, and building a positive mood.[12]

P's: Prayer, Patience, Preserve Nature, Plant a Tree & Pollution avoidance

The role of heartfelt prayer in reducing stress cannot be overemphasized such that studies have proven that prayer plays a significant role which is almost like meditation and other mind–body techniques in reducing stress. It increases parasympathetic output & reduces pulse, blood pressure & respiration. This is a wonderful time to develop a stronger relationship with God by concentrating on personal religious activities. It is very important to preserve our nature, to promote & plant more trees & avoidance of air, water and food pollution to create healthy World!

Q's: Quarantine

Quarantine is defined as the separation of people who have been exposed to a contagious disease, thereby

reducing the risk of infecting others.[13] Quarantine helps to limit the spread of communicable diseases like COVID-19.

One needs quarantine when one is experiencing Covid-like symptoms, or is in close contact/exposed to Covid positive patient (for >15 mins & <6 feet of physical contact). Contact your primary care physician & begin a 14 days quarantine.

R's: Responsibility

Understanding and acting upon our social responsibility in this difficult time faced by nation is important. Firstly , we have to exhibit covid appropriate behavior to control spread of the virus. Further, there are poor and needy people, who work on daily wages and some are homeless and food deprived. We have to help them .. . Following is illustrative list of activities in which we can engage ourselves.

1. Volunteer or give financial contribution to various funds created by Government of India which will be utilized to fight against COVID-19. You can also donate your time, skills and energy .
2. Guiding Companies / Organizations as to how they can volunteer or contribute to the Government of India to fight against COVID-19.
3. Avoiding wastage of food. Giving food to poor, hungry and needy people.
4. Feeding the Animals and Birds.
5. Spreading social awareness about COVID-19.
6. While engaging into any of the above activities, care must be taken that he /she is not breaking any of the norms / guidelines prescribed by Government for COVID-19 or not infringing the Lock-down rules.
7. Be responsible & avoid social gatherings, parties. Explore work from home opportunity, stay home when sick & limit visitors.

S's: Spirituality, Serenity, Self-Dependence, Steam Inhalation, Sanitization & Save Water

If you draw strength from a belief system, it can bring you comfort during difficult times. Prayers , Spiritual reading, devotion , austerities ,Yogic practices & meditation are very helpful spiritual tools. They bring profound serenity.

Sanitization is a preventive and strategic method to contain the spread of SARS-CoV2. One should take standard measures of sanitization of hands, surfaces & objects. Sanitization works as medicine really.

Steam inhalations are often used for the treatment of the viral infections of the respiratory tract such as common cold or croup.. Steam inhalation helps Lower the inflammatory process and reduces nasal symptoms such as nasal blocketc.

Get involved into serenity of nature & environment. Self-dependence is very important to boost our confidence level & keep ourselves going! Save and preserve water & please don't waste natural resources.

T's: Trust in GOD, Time is the best Healer

To trust is to believe in the reliability, truth, ability or strength of something. So, when it comes to trusting God that means believing in His ability, His Word, and His strength. Trusting God is living a life of belief in and obedience to God even when it's difficult.[14] Remember Time is the best healer. This shall pass too, & we will get through this difficult time!

U's: Unleash Your Potentials

- √ The decision to change and grow is a powerful tool that can help you move forward. Make a decision that you will start to pursue growth.
- √ Make a list of your potential strengths & weaknesses & try hard to work on them to be a better version of your own self
- √ Writing short- & long-term goals of your life would slowly help in unleashing your potential. You must visualize each of those goals as already achieved at least for 10 minutes every day in the morning. Creative visualization is a powerful technique to fulfill your goals. Write down goals on a vision board & frequently reaffirm.
- √ Set your own benchmark. Be proud of yourself if you're making progress.

V's: Vaccination, Vegetarian Diet, No Vices (No Smoking-No Alcohol)

Vaccination is a must. Demystify all rumors and promote this best and powerful tool to combat Covid effectively. Vaccines train our immune system to recognize the targeted virus and create antibodies to fight off the disease without getting the disease itself. People who have already been infected with SARS-CoV-2 should still get vaccinated unless told otherwise by their health care provider.[15] Getting vaccinated may also protect people around you, because if you are protected from getting infected from disease, you are less likely to infect someone else.

Smoking, drinking, or using drugs may offer stress relief in the short-term, but after their effects wear off, you may find yourself feeling more stressed than before. Avoid anything that might seem to be an addictive trigger for you, including substances, gambling, etc. Go veggies & Go green!

W's: Win. We will win over Corona. Remember

With adequate vaccination, proper methods of using masks, sanitization protocols, physical distancing and hygiene etiquettes we can and we will surely win over the corona.

We have to empower the citizens with the right information and training them to take right precautions as per the advisories being issued by Ministry of Health & Family Welfare.

X's: X don't harm any creature, X-factor to Win Corona is Immunity

Keeping your immune system healthy year-round is the key to prevent diseases.[16] Making healthy lifestyle choices and stress free pleasant attitude are the most important ways to bolster your immunity. In addition, research has shown that supplementing with certain vitamins, minerals, herbs, and other substances can help improve our immune response and protect against illness.[17] Please do not harm any animals or birds on the earth..

Y's: You are not alone. Don't give up. You matter.

Millions of us are experiencing during the current pandemic is loneliness. No one is exempt from feeling lonely at times. All of us, at some point or the other, will feel isolated from our loved ones. By caring for each other, checking in on people who are more isolated, or even volunteering for a helpline, we can help prevent a loneliness epidemic.[18]

Z's: Zeal, Zest, Zen Meditation

'Zeal' & 'Zest' mean enthusiasm which is important to achieve success in life & progress forward.

Zen meditation, also known as Zazen, is a meditation technique rooted in Buddhist psychology. The goal of Zen meditation is to regulate attention.[19] Zen meditation is similar to mindfulness in that it's about focusing on the presence of mind.

Practice mindfulness. It helps in alleviating fear, anxiety & finding your peaceful self & calm. Research clearly shows meditation has a wide range of physical, cognitive, social, spiritual, and emotional health benefits.[20] Meditation can be a great stress reliever. If you cannot go outside, go inside within yourselves, meditate & try to find your true real inner self. Search your ownself within yourself.

So let us spread the correct knowledge. Let us exhibit Appropriate Behavior against Covid. Let us share, care, love, live, sing, dance, read, help, donate, pray, chant and meditate. Let this ABCD enlighten all fellowmen showing the path ahead in these difficult times.

REFERENCES

1. https://achgroup.org.au/blog/corona-virus-tips-to-stay-healthy/ Last accessed on 03.06.12
2. https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/mental-health-covid-19/art-20482731 Last accessed on 03.06.12
3. Forgiveness can improve mental and physical health. American Psychological Association.
   http://www.apa.org/monitor/2017/01/ce-corner.aspx Last accessed on 03.06.12
4. Neuroepidemiology 2020;54:283–286 doi: https://doi.org/10.1159/000508654
5. https://blog.mygov.in/ayurveda-for-immunity/ Last accessed on 03.06.12
6. https://www.psychologytoday.com/us/blog/ emotional-fitness/201501/10-simple-ways-be-happy-person Last accessed on 03.06.12
7. https://files.eric.ed.gov/fulltext/EJ1286695.pdf Last accessed on 03.06.12
8. https://www.mayoclinichealthsystem.org/hometown-health/speaking-of-health/building-your-spiritual-life-during-covid-19-changes Last accessed on 03.06.12
9. https://www.who.int/docs/default-source/ coronaviruse/mental-health-considerations.pdf Last accessed on 03.06.12
10. https://www.everydayhealth.com/wellness/top-self-care-tips-for-being-stuck-at-home-during-the-coronavirus-pandemic/ Last accessed on 03.06.12
11 https://www.icsi.edu/media/filer_public/cf/15 cf15743f-b247 46a4b45f4d37c0c48927/ stress_mgmt_book_ final.pdf Last accessed on 03.06.12
12. Healthcare 2020, 8, 336; doi:10.3390/health care8030336
13. https://www.mohfw.gov.in/pdf/COVID19Final2020ForOnline 9July2020.pdf Last accessed on 03.06.12
14. https://www.cru.org/us/en/train-and-grow/spiritual-growth/trust-god.html Last accessed on 03.06.12
15. https://www.who.int/news-room/feature-stories/detail/getting-the-covid-19-vaccine Last accessed on 03.06.12
16. Allergy Asthma Clin Immunol. 2018; 14(Suppl 2): 49.
17. Essays Biochem. 2016 Oct 31; 60(3): 275–301
18. https://www.mentalhealth.org.uk/coronavirus /loneliness-during-coronavirus Last accessed on 03.06.12
19. Lusnig L, Radach R, Mueller CJ, Hofmann MJ. Zen meditation neutralizes emotional evaluation, but not implicit affective processing of words. PLoS One. 2020;15(2):e0229310. doi:10.1371/journal. pone.0229310
20. Sharma H. Meditation: process and effects. Ayu. 2015; 36(3):233–237. doi:10.4103/0974-8520.182756

Original Articles

Cervical lymphadenopathy : Incidence and etiological study

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ABSTRACT

Cervical lymph node enlargement may be an incidental finding during general checkup or may be associated with a patient's complaint. The condition is generally not a disease by itself; rather, it may be a symptom of one of many possible underlying problems. It may be localized, limited or generalized in location and/ or acute, subacute or chronic in duration. The etiologies for cervical lymphadenopathy fall under a wide range of spectrum and usually history and physical examination alone may lead to diagnosis. But, unexplained cervical lymphadenopathy is a cause of concern for the physician as it could be a manifestation of an underlying malignancy. However, a methodological approach to lymphadenopathy can disclose the accurate diagnosis causing minimal discomfort to the patient and also less time consuming for the physician.

INTRODUCTION

The human body has about 600 lymph nodes which play the role of filtering the lymph fluid as it circulates throughout the body. The prime function of lymph node is to deal with antigen, whether this is in the form of organisms or other particulate material, or even soluble antigen. The lymph nodes contain T and B cells along with Antigen Presenting Cells which are called the dendritic cells. They form the part of the immune system and function to fight off disease and infections.

Lymphadenopathy (LAP) refers to the lymph nodes that are abnormal in size (usually greater than 1 cm) consistency or number. In general, there are two mechanisms of lymphadenopathy- hyperplasia and infiltration. The former occurs in response to immunologic or infectious stimuli, and the latter is the result of infiltration by various cell types, including cancer cells, lipid cells, or

glycoprotein-laden macrophages. When this occurs, lymph nodes may be detected clinically. Thus, lymphadenopathy is the term used to describe the clinical sign of swelling of the lymph nodes. Lymphadenitis is the pathologic term for inflammation of the lymph nodes.1

The lymph nodes are strategically placed along the drainage of tissue and body fluids with neck containing nearly 2/3rd of the total lymph nodes of the body. Cervical lymphadenopathy is quite significant in that there are numerous etiological agents and is an index of spread of infection and malignancy.6 When cervical lymphadenopathy is detected, a cause can sometimes be determined by careful medical history, thorough physical examination, judicious selection of laboratory tests and, if necessary, a lymph node biopsy

Various diagnostic modalities like fine needle aspiration cytology, ultrasonography (USG), computerized tomography and

PET CT neck are now available to diagnose underlying disease in cervical lymphadenitis. These investigating tools have high sensitivity and specificity for cervical lymphadenopathy. The standard modality in the workup of a neck mass is fine needle aspiration (FNA). FNA can be used for both cytology and culture (in cases in which a suspected infectious neck mass does not respond to conventional antibiotic therapy). If FNA is unsuccessful or if sufficient information is not obtained from an initial FNA, the FNA should be repeated before open biopsy. Aetiology and clinical presentation of cervical lymphadenopathy is certainly different in different groups of population. Understanding prevalent conditions and presentations of lymphadenopathy in population will make it possible to establish sound clinical protocol in evaluation and diagnosis of this condition preventing delay in treatment.

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AIM AND OBJECTIVE

1) To study about the ethology and various clinical presentations of cervical lymphadenopathy.
2) To correlate pathological findings with the clinical diagnosis.

EPIDEMIOLOGY

In tropical areas, TB is a main benign cause of LAP in adults and children. In patients with TB, the assessment of the human immunodeficiency virus (HIV) is advised because it increases the incidence of extrapulmonary TB to more than 50%.Infectious mononucleosis affects patients of all ages; however, it is more frequent before adolescence. Approximately over 90% of adults all over the world are seropositive for this viral disease, although only 25-30% of them have become clinically ill.

In general practice, less than one percent of patients with LAP have malignant disease, often due to leukemia in younger children and Hodgkin's disease in adolescents.It has been reported that the prevalence of malignancy is 0.4% in patients under 40 years and 4% in those over 40 years of age in the primary care setting.The prevalence rises to 17% in referral centers and soars to 40-60% in highly suspicious patients.Be that as it may, the location of LAP changes the possibility of malignancy.Hodgkin's disease is rare before 10 years old and a small male dominance is present, especially in childhood. The Epstein-Barr virus infection in combination with immune deficiency is a risk factor for increasing Hodgkin's disease, particularly in less-developed countries and low socioeconomic conditions. Non-Hodgkin's lymphoma, the fourth common worldwide malignancy in males with a frequency of 6.1%,24 is another cause.

HISTORY TAKING

Neck masses are often seen in clinical practice, and the family physician should be able to determine the etiology of a mass using organized, efficient diagnostic methods. The first goal is to determine if the mass is malignant or benign; malignancies are more common in adult smokers older than 40 years. Etiologies can be grouped according to whether the onset/duration is acute (e.g., infectious), subacute (e.g., squamous cell carcinoma), or chronic (e.g.,thyroid), and further narrowed by patient demographics. If the history and physical examination do not find an obvious cause, imaging and surgical tools are helpful. Contrast-enhanced computed tomography is the initial diagnostic test of choice in adults. Computed tomography angiography is recommended over magnetic resonance angiography for the evaluation of pulsatile neck masses. If imaging rules out involvement of underlying vital structures, a fine-needle aspiration biopsy can be performed, providing diagnostic information via cytology, Gram stain, and bacterial and acid-fast bacilli cultures. The sensitivity and specificity of fine-needle aspiration biopsy in detecting a malignancy range from 77% to 97% and 93% to 100%, respectively.

A history of environmental exposure to tobacco, alcohol, and ultraviolet radiation increases the suspicion of the metastatic carcinoma of the internal organs, head, and neck as well as skin malignancies. Immune deficient patients, like those with AIDS, have wide differential causes of LAP and malignancies like Kaposi's sarcoma; however, non-Hodgkin's lymphoma should always be taken into consideration.

A family history of malignant disorders may raise the physician's suspicion to distinct etiologies of LAP such as breast carcinomas, melanoma, and dysplastic nevus syndrome.

Also, if LAP lasts less than two weeks or over one year without increasing in size, the probability of malignancy is quite low.

SYMPTOMS AND SIGNS

A recent upper respiratory infection can cause cervical LAP, which is usually self-limited. A triad of moderate to high fever, pharyngitis, and moderately tender lymph node with splenomegaly (>50%) characterizes classic infectious mononucleosis.Cytomegalovirus,

toxoplasmosis, HIV, and human herpes virus type 1 can cause mononucleosis-like syndrome.The typical symptoms of toxoplasmosis are flu-like symptoms, with a single swollen cervical lymph node.HIV in the acute phase presents with mononucleosis-like syndrome. Its presentation consists of fever, fatigue, pharyngitis, rash, malaise, arthralgia, and LAP, which appear 2-6 weeks after exposure to the HIV virus.

A recent travel to an endemic area or exposure to an infected patient with TB along with painless, gradually progressive, single or matted lymph nodes can suggest mycobacterium TB involvement.The coexistence of LAP and symptoms like arthralgia, muscle weakness, unusual rash, and anemia may direct the diagnosis of autoimmune

diseases, including rheumatoid arthritis, systemic lupus erythematous, and dermatomyositis.On the other hand, whenever dermatomyositis is diagnosed, the underlying malignancy should be ruled out.

Significant fever, night sweats, and unexplained weight loss (more than 10% in less than 6 months) are the "B symptoms" of lymphoproliferative disorders, but they may also be seen in TB or collagen vascular diseases.

Petechiae and purpura associated with LAP and splenomegaly may be detected in acute leukemias.Pain may occur in involved nods with Hodgkin's disease following alcohol consumption. Generalized pruritus is a concerning symptom because it manifests in 30% of patients with Hodgkin's disease and 10% of patients with non-Hodgkin's lymphoma.

MATERIALS AND METHODS

This study includes 80 patients who attended the OPD in GMERS general hospital himatnagar and few private hospital from himatnagar during Dec 2020 – March 2021.

In this series 80 cases were studied taking detailed clinical history, physical examination and investigations were done. After physical examination and arriving at clinical diagnosis confirmation was done by FNAC and Biopsy. Lymph node biopsy was the most important of these.

Inclusion criteria

Only inflammatory and infective cases were taken, cases of other etiology were not included in this study. Name, Age, Sex, Religion, Address, Occupation of the patients were noted. Cases were taken at random and only patients who gave consent for lymph node biopsy was taken up for study.

Exclusion criteria

All cases of neck secondary's and lymphomas were excluded.

Criteria for socio-economic statusIncome

Patents were divided into 3 income groups according to their monthly income

up to Rs 2000 pa- low income group

Rs 2000-6000pa middle income group

Above Rs6000pa higherincomegroup

Nutritional value- Whether he/she belongs to rural or urban area: Living condition

Over crowding

EXAMINATION AND INVESTIGATIONS

Complete clinical examination was carried out. In local examination, importance was given to the site, size, laterality, number, secondary changes, and level of the cervical lymph nodes. Systemic examination also carried out. An attempt was made to find out the primary tumour in cases of lymph nodes suspicious as secondaries in neck. Those patients with cytological findings of tuberculosis underwent battery of investigations which included chest X-ray and three samples of sputum for AFB to exclude pulmonary tuberculosis. Montoux's test and ESR was carried out in all the patients with positive FNAC findings. Those with FNAC findings suggestive of reactive lymphadenitis were treated with ten days antibiotic therapy and were followed after two weeks to see the size of the node.After making a clinical diagnosis, further investigations were carried out to confirm the diagnosis. Routine investigations included hematological and radiological. FNAC was put in the front line for diagnosis and to get a cytological diagnosis at hand. Lymph node biopsy was carried out meticulously; it was studied grossly, and sent to pathologist for expert opinion. Further tests were carried out on the basis of histopathological diagnosis (for example, secondaries in the neck), contrast radiological investigations, endoscopy carried out in relevant cases. Those patients with cytological or histopathological confirmed tubercular lymphadenitis were referred to DOTS clinic for anti- tubercular therapy (ATT) with four drugs regimen for initial two months and then two drugs continuation for four months. The information were complied, analyzed and tabulated to get the statically and comprehensive results After clinical diagnosis was made investigations were done to confirm the diagnosis.

Blood examination

Erythrocyte sedimentation rate (ESR) Total white cell count Differential count

Hemoglobin percentage

Montoux test was done by standard method and erythema of more than 12 mm after 48 hours is taken as positive.

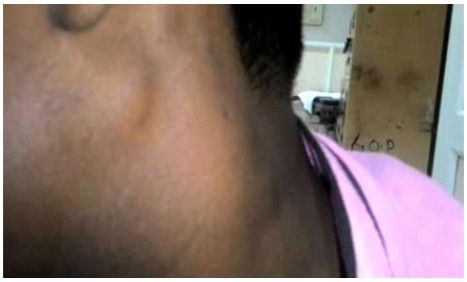
Presence of Langhans type of giant cells was taken as the criteria for diagnosing tuberculosis of lymph nodes.

All the specimens were processed by standard procedure like fixing in formalin, slicing by microtome and staining by gram's and zeihl-Neelson stain. All the slides

were examined under 10X, 60X, 100X power using standard microscope. Aspiration material from cold abscess was stained by gram stain and special stain.

Biopsy Procedure

Lymph node biopsy was infiltrating 1% lignocaine. If multiple lymph nodes are there large lymph node was biopsied. If anterior and posterior groups were involved, posterior group were preferred. Lymph node taken along with capsule. Care was taken in the supraclavicular area regarding homeostasis.



Treatment

All patients were given antituberculous drugs using DOTS strategy with 2 months intensive therapy and 4 months continuation phase therapy with drugs Isoniazid, Rifampicin, Ethambutol and Pyrazinamide.

RESULT AND DISCUSSION

The workup of palpable lymph nodes is a common clinical task for the general practitioners. Most of the causes of CLA (Cervical Lymph adenopathy) are benign and may resolve spontaneously. It can be, on the other hand, a sign of malignancy or systemic disease, thus understanding the differential diagnosis is of paramount importance.

Table 1. Specific causes of lymphadenopathy, in this study, could be determined in 75% of patients.

The total number of cases studied was 80 From the above table it can be seen that tuberculous lymphadenopathy is the commonest cause of cervical lymphadenopathy with 75% followed by chronic non-specific lymphadenopathy with 25%.

No of patients	Tuberculous adenopathy	Non specific adenopathy	Fungal infection
80	60(75%)	18(22.5%)	2(2.5%)

Age	Number of patients	Percentage
0-10	2	2.5%
11-20	25	31.2%
21-30	21	26.2%
31-40	18	22.5%
41-50	7	8.7%
51-60	4	5%
>60	3	3.7%

Incidence of age In this series of 80 cases the disease commonly affected the 2nd and 3 rd decades with 31% and 26% respectively. Next common age group in which cervical lymph adenopathy presented is 4th and 5 th decades. 22% & 8% of cases affected respectively in the present study.

In our country the tuberculous lymphadenopathy commonly affects the younger age group. Commonest age group affected is between 11-20 and 21-30 closely followed by 31-40 years. Non-specific lymphadenopathy commonly affects the age group of 11-20, 21- 30 and less commonly 1-10.

But in western countries the pattern is different. Common age group affected is 0 to 10 years. The causative agent in this age group is atypical mycobacterium. In adults the causative agent is most commonly the mycobacterium tuberculosis. Only 5% are due to atypical mycobacterium.

It cannot be assumed that all cervical lymphadenopathy in children are caused by Atypical Mycobacteria. About 5-10% of childhood lymphadenopathy is due to Mycobacterium Tuberculosis.

History of contact with tuberculosis

In the present study, there was no definite history of contact with tuberculosis in 82.5% of cases. A definite history was obtained in only 17.5% of cases.

Number of patients	Number	Percentage
Number of patient with history of contact with TB group	66	82.5%
Number of patient with no history of contact with TB group	14	17.5%

Sex incidence

In the present study, there is comparatively an increased incidence of tuberculous cervical lymphadenopathy in females than males.

Sex	Number	Percentage
Male	32	40%
female	48	60%
TOTAL	**80**	**100%**

In the present study, though very small, the sex incidence was as follows - Males 40% and females 60%.

Income group	No	Percentage
Low (<1000)	59	73.7%
middle(<2000-6000)	19	23.7%
high(>6000)	2	2.5%

Etiology area	Number and percentage
Tuberculosis	60 (75%)
urban	45(75%)
rural	15(25%)
Chronic non specific	20 (25%)
urban	16(80%)
rural	4(20%)

The increased incidence in females may be because of the wide prevalence of malnourishment in females. The other factors influencing the higher incidence in females are overcrowding, lack of education, early marriage, pregnancy, large families, and poor socioeconomic conditions.

CONCLUSION

Tuberculosis is a potentially serious infectious disease, one of the commonest disease affecting lymph nodes. It is curable with antitubercular drugs if administered as per the accepted regimen. Clinical symptoms in cervical lymphadenopathy have limited significance and clinical behaviour can be highly variable. Dependence on clinical evidence alone would lead to erroneous diagnosis in a considerable number of cases. FNAC can be deemed as a frontline investigation with further investigations on the basis of FNAC result. However, histopathological examination remains the most dependable diagnostic tool. Most of the diseases are medically curable with limited role for surgery in non-neoplastic lesions. It is important to have a high index suspicion in head and neck region and an otolaryngologist must aware about the possible pathologies in cervical lymphadenopathy. Then only an early diagnosis can be possible with simple investigation and thus better outcome of cervical lymphadenopathy

REFERENCE

1. Purohit SD et al. A novel clinical scoring method for diagnosis of tubercular cervical lymphadenitis. Ind. J Tub. 1987; 34:22.
2. Wilson GR, McLean NR, Chippindale A, Campbell RS, Soames JV, Reed MF. The role of MRI scanning in the diagnosis of cervical lymphadenopathy. Br J Plast Surg. 1994; 47:175-9.
3. Wilmont, Newcombe JF. Tuberculous cervical Lymphadenopathy. Postgraduate Medical Journal. 1971; 47:713-717.
4. Tripathy BP, Sen RK, Sharma A et al. Isolated cystic tuberculosis of scapula; case report and review of literature. J Orthop Surg Res. 2010; 5:72-79.
5. Hooper AA. TB peripheral lymph nodes. British Journal of Surgery. 1972; 89:353-359.

Original Articles

Comparative study of Polyethylene Glycol versus Sodium Phosphate Enema for bowel preparation before colonoscopy: a prospective, randomized controlled trial

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KEY WORDS : colonoscopy, bowel preparation, sodium phosphate enema, polyethylene glycol(PEG), randomised control trial, Ottawa bowel preparation scale

ABSTRACT

Background:

The colon should be free of fecal matter and fluid for detailed visualization of colonic mucosa and lesions over it. A patient compliant preparation is preferable for the examiner. The aim of this study was to compare efficacy of bowel preparation, patient compliance and side effects of 2 bowel cleansing regimens i.e Polyethylene glycol with electrolytes (PEG) and Enema (sodium phosphate) for diagnostic colonoscopy performed in indoor patients.

METHODS:

In this randomized, single-blind, controlled trial, 50 patients undergoing diagnostic colonoscopy were randomly administered oral PEG (n=25) and sodium phosphate enema (n=25). Patient tolerance was scored using a questionnaire. Efficacy was scored using the Ottawa bowel preparation scale.

Results:

Patients in PEG group were more satisfied with cleanout, had better Ottawa score, had lower procedure time and less complications compared to patients in Enema group.

INTRODUCTION

Colonoscopy is the method of choice to evaluate colonic mucosa. It plays an important role in screening and diagnosis of large intestinal pathologies like polyp and adenoma.

Insufficient cleaning can result in lower detection rates of incipient and advanced adenomas, flat lesions and also increases the rate of postponed procedures which increases cost, duration of procedure, risk of complications and thus lengthier hospital stay.

Bowel preparation is one of the issues that negatively influence the willingness of patients to undergo colonoscopy screening. Adherence to preparation is a key factor for improving bowel preparation. However, it has limitations due to side effects and poor tolerance among patients to the taste, which are the main reasons for avoiding the procedure

PEG electrolyte solution (PEG) was introduced by Davis et al in 1980 and consists of an isotonic oral, non-digestible and non-absorbable solution. Typically, 2-4 L of PEG is administered; the high volume and the unpleasant taste are among the major disadvantages of this solution.

Sodium Phosphate is an osmotic purgative which retains water in the intestine, distends bowel and increases peristalsis indirectly.

METHODS

This prospective, randomised controlled trial was conducted in Smt Shardaben Hospital, Ahmedabad over a period of 6 months from 1stJuly 2020 to 1st January 2021. Two commonly used agents Polyethylene glycol with electrolytes (PEG) and Enema (sodium phosphate) were used.

Inclusion criteria : all adult patients coming in OPD with chronically altered bowel habits or bleeding per rectum in absence of hemorrhoid were included.

Exclusion Criteria : any patient with altered Renal Function (S.Cr >1.5) or altered electrolytes were excluded.

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2L of PEG was administered over 10 hours before colonoscopy and 200ml enema administered in two doses- one 18 hours before and another 2 hours before the procedure. The patients completed a questionnaire to assess their tolerance of bowel preparation. Efficacy of the preparation was scored using the Ottawa bowel preparation scale.

RESULTS

Out of 50 patients aged between 22 to 86 years, mean age was 42.9. 25(50%) patients were given enema while 25(50%) patients were given PEG. 18 (72%) patients of enema group were satisfied or very satisfied with the cleanout compared to 20 (80%) patients in the PEG group. Better colon cleanout score was found in patients in the PEG group as judged by the Ottawa score. The procedure took significantly longer time in patients in the enema group(34.28min) compared to PEG group (24.2min). The procedure in 3 (12%) patients of enema group was postponed due to improper preparation obscuring the vision. 1 (4%) patients of the enema group had some dehydration.

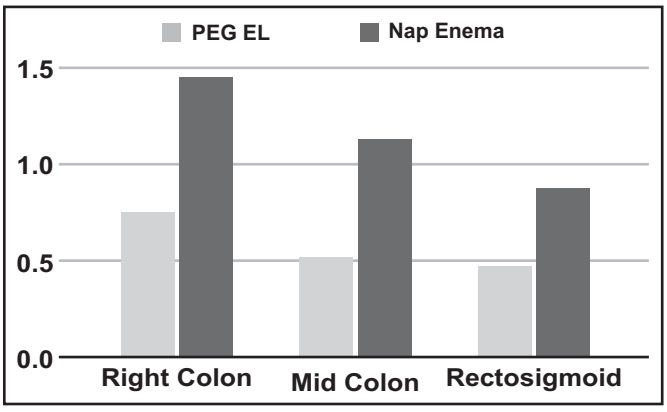
Demographics of PEG Group

	MALE	FEMALE
NUMBER	17	8
MEAN AGE	46.58	50.42
BMI	23.8	24.2

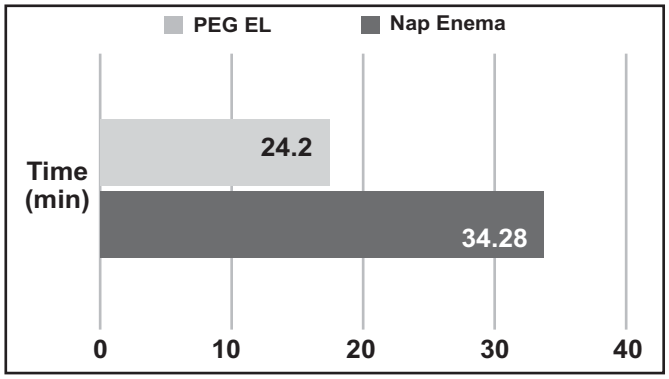
Demographics of Enema Group

	MALE	FEMALE
NUMBER	18	7
MEAN AGE	43.38	39.64
BMI	24.4	25.1

MEAN OTTAWA SCORE



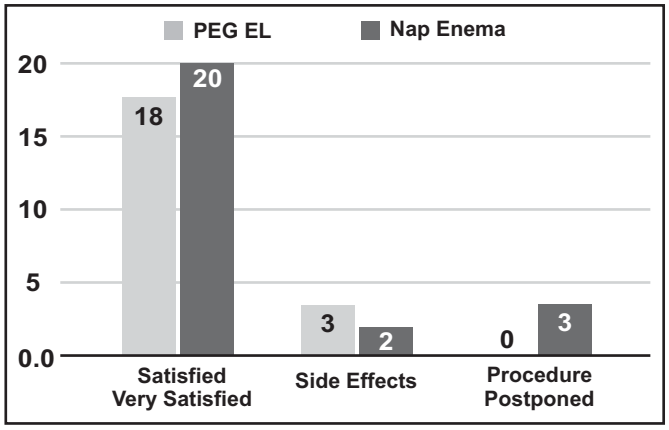
AVERAGE PROCEDURE TIME



SIDE EFFECTS RELATED TO BOWEL PREPARATION

SIDE EFFECT	PEG (no of patients)	ENEMA (no of patients)
Nausea	1	0
Vomiting	0	0
Abdominal Pain	1	0
Dizziness	0	1
Sleep Disturbance	3	1
Dehydration	0	1
TOTAL	3	2

MEAN OTTAWA SCORE



DISCUSSION

Ongoing efforts to improve the tolerability and palatability of colonoscopy bowel preparations are important from a quality improvement standpoint to ensure the adequacy of colonoscopy. Incorporating patient-specific factors and comorbidities is also an essential aspect of improving the quality of bowel preparation. Leveraging technology to better communicate with and educate patients on the bowel preparation process is likely to play a larger role in the coming years.

As true heterogeneity was present in the included studies despite the strict inclusion criteria adopted, caution for interpretation of data is recommended.

As previously known in a meta-analysis by Bucci et al, the interval time between the last drink of bowel preparation and the beginning of colonoscopy (also known as "runway time") is a key factor for cleaning quality. When Pohl et al compared different regimens, the difference between treatment effects was increased and favored that one with the shorter "runway time".

Statistical difference in favor of PEG was also identified in the following situations:

- bowel preparation was made on the day before (better bowel cleaning success and better tolerability);
- bowel preparation was made based on the interval time to colonoscopy (also better tolerability);
- when compared to high-volume solution of PEG (better tolerability and fewer adverse events);
- liquid diet was the option on the day before (with better bowel cleaning success and better tolerability); and
- a low residue diet was the option on the day before (fewer adverse events).

Despite its potential benefits, care should be taken with PEG. Because of the potential electrolyte shifts, plain PEG is not recommended in patients with renal insufficiency, end-stage liver disease, heart failure and electrolyte abnormalities. PEG is the product of choice for those patients as it is an inert molecule and isosmotic solution, which also induces less mucosal damage (inflammation or ulceration) when compared to enema.

CONCLUSION

Polyethylene glycol with electrolyte(PEG) has a better efficacy, safety, bowel cleansing score and shorter mean duration for colonoscopy than enema (sodium phosphate). Patient compliance and satisfaction were greater in the enema group.

REFERENCES

1. Lever EL, Walter MH, Condon SC, Balasubramaniam K, Chen YK, Mitchell RD, Herber R, Collen. Addition of enemas to oral lavage preparation for colonoscopy is not necessary. MJGastrointest Endosc. 1992 May-Jun; 38(3):369-72.
2. Kastenberg D, Bertiger G, Brogadir S. Bowel preparation quality scales for colonoscopy. World J Gastroenterol. 2018 Jul 14;24(26):2833-2843. doi: 10.3748/wjg.v24.i26.2833. PMID: 30018478; PMCID: PMC6048432.
3. Chapman W, Marshall S. Optimising bowel preparation before colonoscopy. Br J Nurs. 2020 Jul 7;29(Sup13):S3-S12. doi: 10.12968/bjon.2020.29.Sup13.S3. PMID: 32870720.
4. Jacobson BC, Calderwood AH. Measuring bowel preparation adequacy in colonoscopy-based research: review of key considerations. Gastrointest Endosc. 2020 Feb;91(2):248-256. doi: 10.1016/j.gie.2019.09.031. Epub 2019 Sep 27. PMID: 31568770.
5. Ben Chaabane N, Ben Mansour W, Hellara O, Ben Mansour I, Melki W, Loghmeri H, Bdioui F, Safer L, Saffar H. Préparation intestinale avant coloscopie [Bowel preparation before colonoscopy]. Presse Med. 2012 Jan;41(1):37-42. French. doi: 10.1016/j.lpm. 2011.04.017. Epub 2011 Jul 26. PMID: 21795010.
6. Poon CM, Lee DW, Mak SK, Ko CW, Chan KC, Chan KW, Sin KS, Chan AC. Two liters of polyethylene glycol-electrolyte lavage solution versus sodium phosphate as bowel cleansing regimen for colonoscopy: a prospective randomized controlled trial. Endoscopy. 2002 Jul;34(7):560-3. doi: 10.1055/s-2002-33207. PMID: 12170410.
7. Chia Y W, Cheng L C, Goh P M. et al . Role of oral sodium phosphate and its effectiveness in large bowel preparation for out-patient colonoscopy. J R Coll Surg Edinb. 1995; 40 374-376
8. Curran MP, Plosker GL. Oral sodium phosphate solution: a review of its use as a colorectal cleanser. Drugs. 2004;64(15):1697-714. doi: 10.2165/00003495-200464150-00009. PMID: 15257632.
9. Hookey LC, Depew WT, Vanner SJ. A prospective randomized trial comparing low-dose oral sodium phosphate plus stimulant laxatives with large volume polyethylene glycol solution for colon cleansing. Am J Gastroenterol. 2004 Nov;99(11):2217-22. doi: 10.1111/j.1572-0241.2004.40482.x. PMID: 15555005.
10. Parra-Blanco A, Ruiz A, Alvarez-Lobos M, Amorós A, Gana JC, Ibáñez P, Ono A, Fujii T. Achieving the best bowel preparation for colonoscopy. World J Gastroenterol. 2014 Dec 21;20(47):17709-26. doi: 10.3748/wjg.v20.i47.17709. PMID: 25548470; PMCID: PMC4273122.
11. Rocha RSP, Ribeiro IB, de Moura DTH, et al. Sodium picosulphate or polyethylene glycol before elective colonoscopy in outpatients? A systematic review and meta-analysis. World J Gastrointest Endosc. 2018;10(12):422-441. doi:10.4253/wjge.v10.i12.422
12. Millien VO, Mansour NM. Bowel Preparation for Colonoscopy in 2020: A Look at the Past, Present, and Future. Curr Gastroenterol Rep. 2020 May 6;22(6):28. doi: 10.1007/s11894-020-00764-4. PMID: 32377915.

Original Articles

Study of Feotal Outcomes in Patients with Meconium Stained Liqour

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KEY WORDS : Meconium , Respiratory Distress Syndrome

ABSTRACT

INTRODUCTION : Meconium stained liquor is a sign of intrauterine fetal jeopardy. Meconium aspiration syndrome is the aspiration of stained amniotic fluid which can occur before, during or immediately after birth. Aspiration causing pulmonary infection , decreasing oxygen saturation, cyanosis and respiratory distress syndrome.

MATERIALS AND METHODS : IN prospective observational study was done in a tertiary care hospital including 100 women laboring in 1 year of duration and who had developed meconuimliquor. delivered by normal delivery or cesearen section. The neonatal outcome is observed for 1 year.

RESULTS : IN this study meconium stained liquor was more cpmmon in primigravidas within the age group of 21-30 years of age with moderate type of meconium being more common .

CONCLUSION : in this study we concluded that meconium stained liquor more commonly seen in primigravidas which have asscoaciated risk factors like preclampsia, malposition, prolonged labour and abnormal uterine inertia.

INTRODUCTION

Meconium the gastrointestinal excreta of the foetus is a green admixture of intestinal epithelial cells , lanugo, vernix, mucous and gastrointestinal secretion such as bile , liver enzymes and pancreatic juice. The passage of meconium is regulated by the hormone named MOTILIN responsible for bowel peristalsis and defeacation.It causes contraction of smooth muscle in the gut wall.

Meconium directly alter amniotic fluid decrease antibacterial activity and increased risk of perinatal bacterial infection and meconium is irritating to fetal skin increase the incidence of erythema toxicum.However the most severe complication of meconium aspiration is meconium aspiration syndrome.

Meconium aspiration occurs due to foetal breathing movement causing inhalation of meconium into the lungs causing partial or complete airway obstruction, surfactant dysfunction and chemical pneumonitis.

MECONIUM ASPIRATION SYNDROME

MAS it is diagnosed if any of 2 criteria are present Meconium staining of liquor or meconium staining of nails\toes\ umbilical cord

Respiratory distress soon after birth within one hour.

Radiological evidence of aspiration pneumonitis (atelectasis or hyperinflation)

Severe meconium aspiration syndrome is associated with profound hypoxia, persistent foetal circulation, resistant pulmonary hypertension, pulmonary hemorrahage and necrosis of pulmonary vessels. It also enhances bacterial growth and is associated with intrauterine infection and can lead to infectious pneumonitis.

MATERIAL AND METHODS

Sample size 100

Study population laboring mothers with meconium satined fluid who delivered or underwent cesarean section in the institute.

Study period 1 year

Type of study Prospective Observational study

Study location Obstetrics and Gynecology department of Tertiary Care Hospital , Ahmedabad.

Inclusion criteria

1. Laboring mothers with Mecconium Stained Liqour who gave permission to participate in the study
2. Cephalic presentation
3. Live singleton pregnancy
4. Pregnancy without any congenital malformation

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EXCLUSION CRITERIA

Mothers in labour were excluded from study with following criteria

1. Pre-term labour (<34 completed weeks)
2. Antepartum hemorrhage
3. Breech presentation
4. Transverse lie
5. Multiple pregnancy
6. Pregnancy with congenital malformation
7. Intrauterine death

RESULTS AND DISCUSSION

Table 1 : Agewise Distribution of Patients

AGE(YEARS)	NO. OF CASES	PERCENTAGE
<20	19	19
21-25	57	57
26-30	17	17
31-35	6	6
>35	1	1
TOTAL	**100**	

Majority of the patients were in the age group of 21-30 year i.e. 74%. This could be because in our maximum number of deliveries occur in this group.

Mean maternal age was 24+5 years in which meconium in liquor was observed

Table 2 : Correlation Between Parity and Meconium Stained Liqour

PARITY	NO. OF CASES	PERCENTAGE
Primipara	58	58
Multipara	42	42
TOTAL	**100**	

From the above table, it seems that maximum incidence of meconium stained amniotic fluid was found in primigravida i.e. 58%. This may be due to associated risk factors like PIH . Prolonged labour due to minor degree of cephalopelvic disproportion, malposition and uterine inertia is also more common in primies.

70 % of patients with meconium stained amniotic fluid were registered and rest 30% patients were emergency cases. Out of 30 emergency cases, most were referred from private hospital or coming from remote areas. Many of them having associated maternal illness like pre-eclampsia, anemia, fever, jaundice, etc. So number of cases having thick meconium and perinatal mortality was also higher in emergency cases.

Table 3 : Correlation Between type of Admission, Character of Meconium and Perinatal Mortality

Type of Admi-Ssion	No. of Cases	No. of Cases with thick Meconium	Perinatal Mortality (No. of cases)	Perinatal Mortality (%)
Registered	70	11	1	1.42
Emergency	30	17	4	13.33
TOTAL	**100**	**28**	**5**	

Table 4 : Correlation Between Meconium Staining and Foetal Distress

Type of Meconium	No. of babies with foetal distress	Percentage
Thin (38)	3	12
Moderate(34)	9	36
Thick(28)	13	52
TOTAL	**25**	

Foetal distress may be alone or associated with obstructed labour, failed progress and cord problems like tight loop around neck of foetus.

The overall incidence of foetal distress in meconium stained amniotic fluid was 25%. Out of which, 52% cases with thick meconium liquor developed foetal distress as compared to 36% cases with moderate and only 12% with thin meconium stained liquor.

Table 5 : Mode Of Delivery And Meconium Stained Amniotic Fluid

Type of meconium	Vaginal Delivery	LSCS	Vaccum (Instrumental Delivery)
Thin(38)	24(63.15%)	12(31.57%)	2(5.26%)
Moderate(34)	15(44.11%)	17(50%)	2(5.88%)
Thick(28)	2(7.14%)	25(89.28%)	1(3.57)
TOTAL	**41**	**54**	**5**

46% of patients delivered vaginally (spontaneous 41 %, instrumental 5%) and 54% underwent cesarean section.

NICU admission was required in 30 cases , 13 cases had thick meconium. Moderate and thin meconium was noted in 13 cases and 4 cases respectively.

All 4 cases with thin meconium recovered well with oxygen therapy and hence were kept with mother.

Table 6 : Meconium Stained Liqour and Nicu Admission

TYPE OF MECONIUM	NO. OF CASES	NICU Admission
Thin	38	04
Moderate	34	13
Thick	28	13
TOTAL	100	30

CONCLUSION

Meconium stainimg of amniotic fluid and meconium aspiration syndrome are not uncommon problem.

There were association of maternal age, parity, gestational age more at term pregnancy and predisposing factors like postdate, oligohydramnios, hypertensive disorder, preterm delivery with meconium stained liquor. So incidence of msl causing neonatal morbidity and mortality was higher in those who had completed their birth term and had appropriate birth weight for gestational age with more incidence of grade 1 MSL.

There were significant association with different method induction of labour, non-reactive NST with higher grade of MSL 2 and 3. MSL alone was not associated with adverse neonatal outcome.

Perinatal mortality more with grade 3 had MAS, required intervention like CPAP, ventilator support had mortality rate 3.5%. So, grade 3 MSL had major impact on both mode of delivery and neonatal outcome than other grade of msl. So, required early and timely diagnosis, close monitoring and timely obstetrical intervention and appropriate postnatal care to minimize meconium complication and improve fetal outcome.

REFERENCES

1. AntonowiczI, ShwachmanH.Meconium in health and in disease.Advances in paediatrics.1979;26:275-310.
2. Akhila S AK, CD Aundhakar. Study of neonatal outcome in meconium stained amniotic fluid.International Journal of Medical and Health Research.2018;4(3):134-8.
3. Aggarwal Manju, Suri J.C. SuriSushma, Sen M.K. : Maternal and foetal outcome of sleep disordered breathing in pregnancy.The Indian Journal of Sleep Medicine (IJSM),Vol.3,No.1,2008.
4. ACOG Committee Opinion No 579 :Definition of term pregnancy.Obstetrics and Gynecology.2013;122(5):1139-40.
5. American College of Obstetric and Gynecologists. ACOGCommitttee opinion no.561 :Nonmedically indicated early-term deliveres.Obstetrics and Gynecology.2013;121(4):911-5.
6. Acharya T, Devkota R, BhattaraiB,AcharyaR.Outcome of misoprostol and oxytocin in induction of labour.SAGE open medicine.2017;5:2050312117700809.
7. Alfirevic Z, AflaifelN,WeeksA.Oral misoprostol for induction of labour.The Cochrane database of systemic reviews.2014(6):CD001338.
8. BernasconiA,BeghettiM.Inhaled nitric oxide applications in pediatricpractice.Images in pediatric cardiology.2002;4(1):4-29.
9. Clark DA, Nieman GF, Thampson JE, Paskanik AM, RokharJE, Bredenberg CE. Surfactant displacement by mrconium free fatty acids : an alternate explanation for atelectasis in meconium aspiration syndrome. The Journal of paediatrics.1987; 110(5):765-70.

Original Articles

"A Study to Evaluate the Visual Outcomes of Bilateral Implantation of the Diffractive Multifocal Intraocular Lenses in Patients with Cataract."

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KEY WORDS : Cataract, Diffractive Multifocal IOL, visual acuity, Questionnaire

ABSTRACT

Background : To evaluate the visual outcomes of bilateral implantation of the diffractive multifocal intraocular lenses in patients with cataract.

Methods : This was a prospective observational study done on 200 eyes of 100 patients to evaluate the visual functions, spherical equivalent & subjective response of patients after bilateral implantation of diffractive multifocal IOL. Patients who wanted to be independent from spectacle use, following uncomplicated phacoemulsification cataract surgery were included in our study. The patients' expectation regarding spectacle independence and visual quality was assessed. Pre-operative examination like visual acuity for distance and near had been taken, subjective refraction and IOP was taken. IOL power was calculated with the help of IOL MASTER 700. Calculation of IOL power was done by optical biometry and SRK-T formula. Post operatively subjective refraction and distance and near visual acuity had been taken in all patients at 3follow-ups after Cataract Surgery.

Results : A total of 200 eyes of 100 patients who underwent Phacoemulsification with Diffractive Multifocal IOL implantation for cataract surgery. There were 69 females and 31 males aged between 40 to 80 years. In our studies, 100% of patients have uncorrected distance visual acuity- 6/9 or better and 100% have uncorrected near visual acuity of N6 which is statistically significant (p value < 0.0000001). While Post-operative spherical equivalent was observed after 3 month of cataract surgery, there was marked improvement in spherical equivalent after surgery which was statistically significant having P value (0.002151), spherical equivalent ranges from ±1.25 >95% eyes had spherical equivalent less than or equal to ±0.5D. 100% has spherical equivalent less than or equal to ± 1.25 D. Questionnaire of Patient's visual responses were recorded for near and distance, 95% of patients reported were highly satisfied and 98% of patients were independent of spectacle for near work while 100% of patients were independent of spectacle for Distance work. Finally, 97% patient was satisfied with their cataract surgery.

Conclusion : Cataract surgery with bilateral implantation of apodised diffractive multifocal IOL have improved quality of life in active patients who wish to reduce their dependence on glasses for good distance and near visual acuity. Therefore, by using multifocal IOL, patient becomes spectacle independence in majority of cases. The quality of life questionnaire confirm that patient underwent cataract surgery with multifocal IOL have high level of satisfaction. However, patients have more glare and haloes as compared to traditional Monofocal IOL.

INTRODUCTION

The crystalline lens is the part of the optical system of the eye that focuses rays of the light on the retina. At the age of approximately 40 years most people are losing their ability to accommodate for reading, they become presbyopic. Apart from this, age related changes in the crystalline lens lead to cataract formation. Cataract surgery with an intraocular lens (IOL) has the potential to improve a patient's acuity and refine the refractive error to a given target. Cataract surgery with implantation of a traditional Monofocal IOL, targeting distant vision leaves most individuals dependent on some correction usually spectacles for near vision.

Currently, the goal of cataract surgery is to provide fast and complete visual rehabilitation without surgical complications with minimal postoperative refractive errors. Several methods and materials used to compensate for loss of accommodation from implantation

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of an intraocular lens (IOL) including multifocal IOL, accommodating IOLs and monovision.

Two types of multifocal IOLs are currently present in market:Refractive Multifocal IOLs and diffractive Multifocal IOLs. The optical function of refractive Multifocal IOL derives from refractive zones for distance and near vision allocated concentrically over optic lens.The working principle of the full optic diffractive multifocal IOLs based on creation of two focal points by using diffraction orders (order 0 & 1). The power corresponding to the 0-order diffraction is used to image distant objects whereas power corresponding to 1- order is used for near vision.

IOL design: IOL is a single piece diffractive multifocal IOL made of hydrophilic acrylic with a hydrophobic surface specifically designed for implantation in the capsular bag. It is an aspheric refractive IOL with an adding power of +3.75D in the lens plane. Its multifocality is due to the presence of concentric rings of different refractive indices.

The current study was conducted to evaluate the visual, refractive, reading performance and patient satisfaction outcomes with this new diffractive aspheric apodized multifocal intraocular lens MFIOL and confirm the benefits of the same in patients after multifocal IOL implantation.

MATERIAL AND METHODS

This was a prospective observational study done on 200 eyes of 100 patientsto evaluate the visual functions, spherical equivalent & subjective response of patients after bilateral implantation of diffractive multifocal IOL. The patients of age group between 45 to 75 years having no gender preference with corneal astigmatism of <1.0D were included. Patients who wanted to be independent from spectacle use, following uncomplicated phacoemulsification cataract surgery were included in our study. While patients having pre- existing ocular pathologies like corneal diseases, diabetic retinopathy, ARMD, glaucoma, uveitis, amblyopia etc. & occupational night drivers & pilots were excluded from our study. Even Individuals with monofocal lens in one eye or history of any previous refractive surgery were also excluded. The patients' expectation regarding spectacle independence and visual quality was assessed.During the pre-operative examination, visual acuity for distance as well as for near had been taken using a Snellen's chart, subjective refraction of the patient had been done, IOP was taken by Goldman Applanation Tonometer (GAT) and IOL power was calculated with the help of IOL MASTER 700. Calculation of IOL power wasdone by optical biometry and SRK-T formula. We hadchosen the IOL that result in emmetropic or the nearest negative refraction.Antibiotics drops were prescribed two days prior to the surgery.All cataract surgery was performed by one surgeon.The procedure consists of phacoemulsification through a 2.8mm incision without sutures, with in the bag implantation of IOL. There should not be any complications. Post operatively patients will be prescribe moxifloxacin Eye drops (4times a day for 10 days), moxifloxacin with dexamethasone 0.1 % Eye drops with decreasing dosage, nepafenac 0.1 % Eye drops 3 times a day for 1 month and CMC eye drops 4 times a day for 1 month. Post operatively subjective refraction and distance and near visual acuity had been taken in all patients at 7th day, 1 month and 3 months after Cataract Surgery. Subjective responses were also recorded in each patient. All the data had been preserved for future references.

STATISTICAL ANALYSIS

The statistical analysis was performed with SPSS 7.0 software and Microsoft Office Excel 7.0.

The average value and standard deviations were calculated for every parameter during followup. Nonparametric statistical paired t test was applied to assess the significance of difference between pre-operative and post-operative data; usually in all cases, the same level of significance($p< 0.05$) was found.

RESULTS

A total of 200 eyes of 100 patients who underwent Phacoemulsification with Diffractive Multifocal IOL implantation out of which 3 patients were operated for refractive lens extraction and others for cataract surgery. There were 69 females and 31 males aged between 40 to 80 years. Majority of the patients were between 50-59 years hence relatively majority of young population wants to achieve spectacle independence after surgery for daily activities. The female predominance (69%) which was due to the cosmetic appearance and ease of daily activities in household work playinga major factor for diffractive multifocal IOL implantation helping them in daily spectacle free activities.

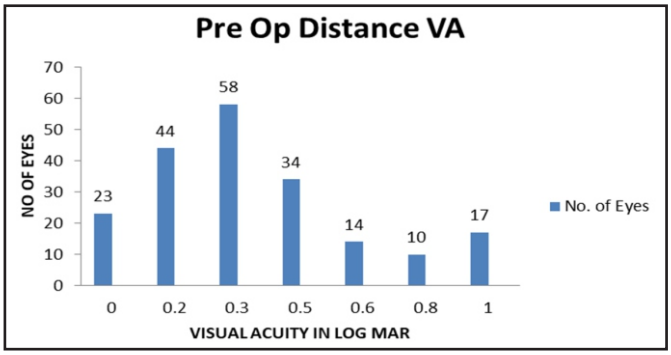

Chart 1 Pre-Operative Distance visual acuity in LOG MAR.

The above chart shows pre-operative distant visual acuity in LOG MAR.

Out of 200 eyes,23 eyes have visual acuity of 0(6/6), 44 eyes have visual acuity of 0.2(6/9), 58 eyes have visual acuity of 0.3(6/12), 34 eyes have visual acuity of 0.5(6/18), 14 eyes have visual acuity of 0.6(6/24), 10eyes have visual acuity of 0.8(6/36) while 17 eyes have visual acuity of 1(6/60).

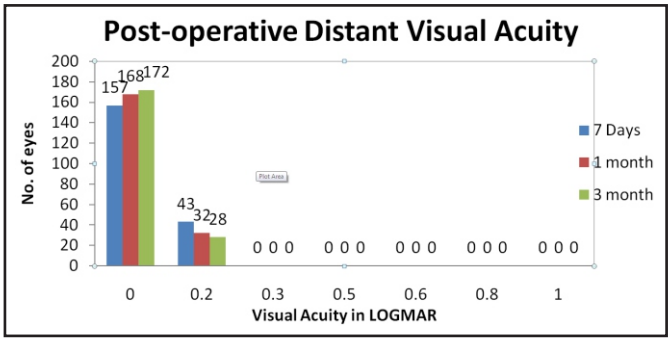

Chart 2 Post-Operative Distance visual acuity in LOG MAR.

The chart 2 shows post-operative distant visual acuity on postoperative day- 1, 1st month and 3month.

There was statistical significant improvement at 7th postoperative day in uncorrected distance visual acuity UCDVA($p < 0.0000001$) was found.

No significant change in this parameter was detected between 1 and 3 months after surgery.

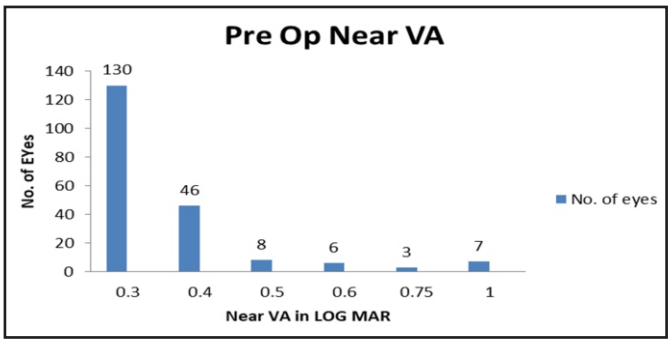

Chart 3 Pre-operative near VA in LOG MAR.

Out of 200 eyes,130 eyes have visual acuity of 0.3(N6), 46 eyes have visual acuity of 0.4(N8), 8eyes have visual acuity of 0.5(N10), 6 eyes have visual acuity of 0.6(N12), 3 eyes have visual acuity of 0.75(N18) while 7 eyes have visual acuity of 1(N36).

At 7th day after surgery, a statistically significant improvement was observed in uncorrected near visual acuity(UCNVA). P value <0.0000001.

No significant changes in these parameters were observed in the remaining follow up periods.

In our studies, 100% of patients have uncorrected distance visual acuity-6/9 or better and 100% have uncorrected near visual acuity of N6 which is statistically significant (p value < 0.0000001).

In the study done by Tae-im Kim et al 1 and Lucas Monferrari et al 3 similar uncorrected distance and near visual acuity was obtained i.e. 6/9 or better and N8 or better .

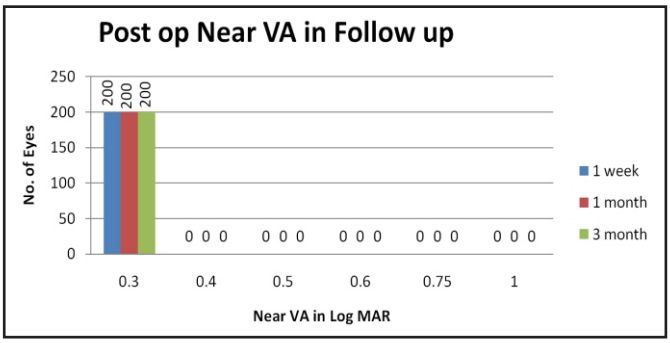

Chart 4 : Post-operative Near visual acuity in LOG MAR.

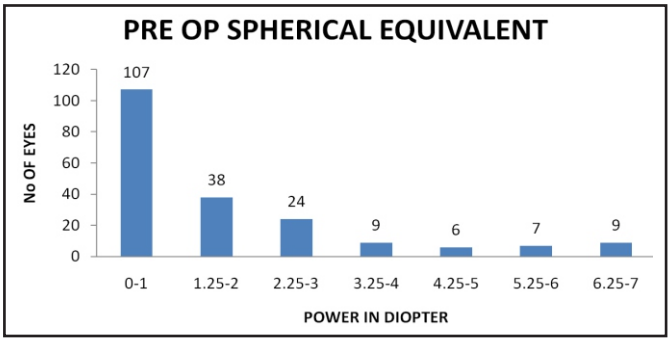

Chart 5 : Pre-operative spherical equivalent in Diopters.

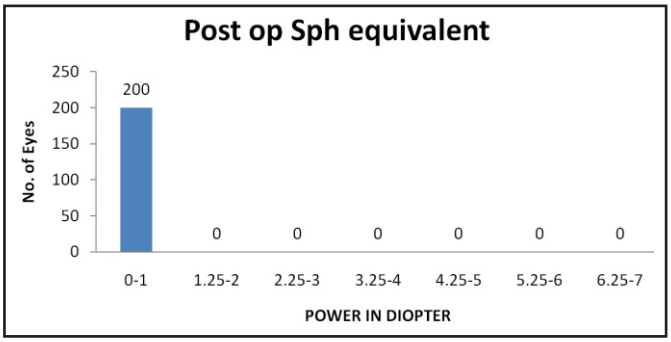

Chart 6 : Post-operative spherical equivalent in Diopters.

It was observed that 3 months after cataract surgery there was marked improvement in spherical equivalent after surgery which was statistically significant having P value(0.002151), spherical equivalent ranges from -1.25 to +1.25 >95% eyes had spherical equivalent less than or equal to ±0.5D. 100% has spherical equivalent less than or equal to± 1.25 D. Similar findings were observed in Jerome C Vryghemet al2studies.

It shows >95% of patients were satisfied with the distance and near visual acuity while only 2% had difficulty in near vision for very small print. 27% patients had complained of

Result of Quality of Life Questionnaire :

Questions	Response	Reply
How satisfied are you with your vision for seeing objects at near distance?	Dissatisfied/very dissatisfied Neither satisfied nor dissatisfied Satisfied /very satisfied	2 2 96
How often do you wear glasses or contact lenses for seeing objects at near distance?	None of the time Some of the time Most of the time All of the time	98 2 0 0
How satisfied are you with your vision for seeing objects at intermediate distance?	Dissatisfied/very dissatisfied Neither satisfied nor dissatisfied Satisfied /very satisfied	1 5 94
How often do you wear glasses or contact lenses for seeing objects at intermediate distance?	None of the time Some of the time Most of the time All of the time	100 0 0 0
How satisfied are you with your visionfor seeing objects at distance?	Dissatisfied/very dissatisfied Neither satisfied nor dissatisfied Satisfied /very satisfied	2 2 96
How often do you wear glasses or contact lenses for seeing objects at distance?	None of the time Some of the time Most of the time All of the time	100 0 0 0
How often do you experience halos?	None of the time Some of the time Most of the time All of the time	70 27 2 1
How severe were these halos?	None Mild Moderate Severe	74 24 2 0
If you currently drive, how much difficulty do you have driving at night?	No difficulty at all A little difficulty Moderate difficulty Extreme difficulty I do not drive at night	29 9 2 0 6
If you do not drive at night, what is the reason?	Because of your current eyesight Because you are not interested in driving Because you have other reasons I drive at night	5 62 2 31
How satisfied are you with your cataractsurgery result?	Dissatisfied/very dissatisfied Neither satisfied nor dissatisfied Satisfied /very satisfied	1 2 97
Would you recommend the cataract surgeryand new lenses that were put into your eyes to other people?	No Yes	2 98

haloes at night, which were graded mild in severity. 9% of patient had little difficulty in night driving. Only 5% of patients do not drive at night due to their current eyesight. 97% patient was satisfied with their cataract surgery.

Tae im Kim et al 1 at our study also have similar finding in their studies.

CONCLUSION

Cataract surgery with bilateral implantation of apodised diffractive multifocal IOL have improved quality of life in active patients who wish to reduce their dependence on glasses. This IOL give good distance and near visual acuity. Therefore, by using multifocal IOL, patient becomes spectacle independence in majority of cases. The quality of life questionnaire confirm that patient underwent cataract surgery with multifocal IOL have high level of satisfaction. However,patients have more glare and haloes as compared to traditional Monofocal IOL.

Outcome of this study should be confirmed with long-term studies with large sample size.

REFERENCES

1. Tae im Kim et al, "Clinical Outcomes Following Implantation of Diffractive Multifocal Intraocular Lenses with Varying Add Powers" PMID: 26209232 DOI: 10.1016/j.ajo.2015.07.021.
2. Jerome C Vryghem et al, "Visual performance after the implantation of a new trifocal intraocular lens"Affiliations expand PMID: 24124348PMCID: PMC3794849DOI : 10.2147/OPTH.S44415.
3. Lucas Monferrari et al, "Visual outcomes of the diffractive multifocal intraocular lens - Zeiss AT Lisa 809MTM" DOI:10.5935/0034-7280.20140019 Rev Bras Oftalmol. 2014; 73 (2): 81-5.

Original Articles

Surgical Site Infection in Caesarean Section – A Prospective Cohort

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Keywords: Caesarean Section, Surgical Site Infection

ABSTRACT

Background : Surgical site infection (SSI) is one of the most common complications following caesarean section, and has an incidence of 3%–15%.With the global increase in caesarean section rate, it is expected that the occurrence of SSI will increase in parallel, hence its clinical significance. Optimization of maternal comorbidities, appropriate antibiotic prophylaxis, and evidence-based surgical techniques are some of the practices proven to be effective in reducing the incidence of SSI.

Material & Method: Prospective, cohort, observational study conducted in tertiary care hospital. Women undergoing LSCS during study period were monitored for SIS and its associated risk factors.

Result : During the study period total 324 patients undergone LSCS, among them 26 patients had wound site infection. Increase incidence of SSI in the presence of PROM and BMI >=25, in emergency LSCS and also with increase duration of the surgery, which is statistically significant.($p<0.05$). 42.3% patients had no growth in their culture sensitivity report.

Conclusion: The present study highlights on the incidence of wound infection, possible risk factors and etiology of wound infection. Incidence of SSI in this study is 8.02%. In SSI Staphylococcus Aureus is most common organism.

INTRODUCTION

- Caesarean section is most commonly performed major abdominal surgery among women in both developed and developing countries.
- Globally the rate of C-Section is 15%.[1] In India average rate of C-Section is 17.2 %, varying from 30-50% in different states. (WHO 2017)
- Surgical site infection are the most common nosocomial infection, accounting for 38% of hospital acquired infection.[2]
- The development of an SSI after LSCS depends on many factors including: wound type, immune status, maternal age, PIH,[9] chorioamnionitis,[7,9] type of organism, virulence of microorganism, maternal weight, surgical techniques, PROM,[8] gestational diabetes.[10]
- Advances have been made in infection control practices, improved OT ventilation, sterilization methods, surgical techniques, antimicrobial prophylaxis, SSI remain a substantial cause of morbidity and prolonged hospital stay.[3]
- Surveillance program of SSI includes the use of epidemiologically sound definitions and effective methods, stratification of SSI rates according to risk factors associated with SSI development.[3-5]

AIMS AND OBJECTIVES

Aim : Analysis of surgical site infection in caesarean section.

Objectives:

Primary objective: to determine the incidence of SSI in LSCS.

Secondary objectives:

1. To identify the factors responsible for development of SSI.
2. To identify common microbial agents for SSI.
3. To establish the relation between BMI, PROM and SSI.
4. To assess the relation between Anemia and SSI.

MATERIALS AND METHODS

Study Site : Department of Obstetrics and Gynaecology, GMERS Medical college & Hospital, Sola, Ahmedabad.

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Study population : All pregnant patients undergoing LSCS at GMERS Medical college & Hospital, Sola, Ahmedabad during study period.

Study design : A Prospective, Observational, cohort study.

Inclusion criteria: pregnant patients undergoing LSCS .

Total 324 patients of LSCS admitted in obstetrics and gynaecology department on Sola Civil hospital, Ahmedabad over a study period 1st august to 31st october, 2019.

Exclusion criteria: immuno compromised patients.

Methodology :

Risk factors like patient's characteristics (age, socioeconomic status, obs and menstrual history, medical and surgical history) information regarding routine preoperative investigations, procedure types (type of operation, type of anaesthesia, type of wound, duration of operation) was taken note of.

All patients were received prophylactic antibiotics(Cefotaxim, Gentamycin, Metronidazole) for 5 days.

Postoperatively women were monitored for signs of infection. All the patients were followed up to 7th postoperative day.

During the study period total 324 patients undergone LSCS, among them 26 patients had wound site infection including wound discharge, inflammation, wound gapping as per CDC criteria.

GROUP A : SSI = 26 cases

GROUP B : NO SSI = 298 cases

OBSERVATION AND RESULT:

Table 1 shows relationship between age, parity and BMI of the patient and risk of SSI.

Incidence of SSI is higher in patients from rural area than in urban area which is statistically significant. Probable reason behind it is poor hygiene and less cleanliness will predispose to more chances of infection.

Table 2 shows increase incidence of SSI in the presence of PROM and BMI >=25 which is statistically significant. ($p<0.05$). Also presence of diabetes and post operative anemia is statistically significant risk factors for the development of SSI($P<0.05$).

Table 3 shows increase incidence of SSI in emergency LSCS and also increase risk with increase duration of the surgery, both statistically significant.($p<0.005$)

Table 1: Association of Age, parity and socio - economic status and residence with SSI

	GROUP A	GROUP B	
Age (years)			
<35	25 (96.15%)	288 (94.65%)	
>35	1 (100%)	10 (3.35)	
Mean age	27.3	25.6	
Parity			P value
Primipara	9 (34.6%)	110 (36.95%)	0.815
Multipara	17(65.4%)	188(63.1%)	
Residence			
Rural	9(34.4%)	21(7%)	<0.05
Urban	17(65.4%)	277(93%)	
Socio economic class			
Higher	0(0%)	3(1%)	
Middle	8(30.5%)	157(48.4%)	
Lower	18(69.5%)	164(50.6%)	

Table 2 : Association of PROM, BMI, Diabetes and anemia with SSI.

	GROUP A (N=26)	GROUP B (N=298)	Incidence	P value
PROM				
Present (32)	8(30.8%)	24(8%)	26%	0.0001
Absent (292)	18(69.2%)	274(92%)	6.16%	
BMI				
<25 (241)	14(53.8%)	227(76.17%)	5.8%	0.0123
>=25(83)	12(46.16%)	71(23.83%)	14.4%	
Diabetes				
Yes (10)	4(15%)	6(2.01%)	40%	<0.05
No (314)	22(85%)	292(97.9%)	7%	
Postop Hb (mg/dl)				
9-10.9(170)	13(50%)	157(52.68%)	7.64%	<0.05
7-8.9(129)	10(38.4%)	119(39.93%)	7.75%	
<7(25)	3(11.5%)	22(7.38%)	12%	

Table 3: Association of SSI with type of surgery and duration of surgery

	GROUP A (N=26)	GROUP B (N=298)	Incidence	P value
Type of surgey				
Elective (77)	1(3.9%)	76(25.5%)	1.2%	0.02
Emergency(247)	25(96.1%)	222(74.5%)	10.12%	
Duration of surgery				
<60 min(297)	20(76.9%)	277(92.9%)	6.7%	0.004
>60 min(27)	6(23.7%)	21(7.06%)	22.2%	

Table 4 : Distribution of microorganism in SSI

Micro organism	No. of Cases	%
Staphylococcus aureus	7	26.9
Klebsiella	4	15.3
Acinetobecter	2	7.6
E.coli	2	7.84
No growth	11	42.3
Total	26	100%

Table 4 shows total 4 types of bacteria were isolated from patients of SSI and among which staphylococcus aureus was the most common microorganism in this study. 42.3% patients had no growth in their culture sensitivity report.

DISCUSSION

Surgical site infections (SSIs) are an important global cause of morbidity and mortality in patients undergoing all types of operations. These infections lead to increased duration of hospitalization, health care costs, morbidity, and risk of death.[4]

Efforts to reduce maternal mortality and morbidity must focus not only on expanding the quantity and availability of care but also on improving the quality of existing health care.

The purpose of this review was to provide information on reported infection rates following CS. Incidence of SSI in this study is 8.02%. CS rates have been increasing globally, suggesting that the population at risk of SSI following CS in SSA will grow.

The rate of SSI ranges from 3% to 15% worldwide.[5] The variation in incidence is because of differences in population and risk factors, operative practices, operative duration.[5]

There is strong evidence of the protective role of antibiotic prophylaxis to reduce the SSI incidence rate.[11]

Limitation:

1. Sample size and study duration is small. Large multi centric trials will require to validate the data of this study.

2. In this study the follow up of SSI was done up to 7th postoperative day, but patient should be followed up to 30 days of LSCS as per the CDC criteria.

CONCLUSION

- The present study highlights on the incidence of wound infection, possible risk factors and etiology of wound infection.
- Incidence of SSI in this study is 8.02%.
- It was concluded that BMI >=25 kg/m2 is associated with increase risk of SSI.
- Diabetes, severe anemia and PROM increases the incidence of SSI.
- Patient having emergency LSCS are having higher risk of SSI compared to elective.
- In SSI Staphylococcus Aureus is most common organism.

REFERENCES

1. Betran AP, merialdi, Bing Shun W, Thomas T, Van Look p, et al. rates of caesarean section: analysis of global, regional and national estimates. PaediatrPerinat Epidemio, 2007; 21(2): 98-113.
2. Mangram A.J. Horan TC, Pearson ML, Silver LC, Jarvis WR et al. Guideline for prevention of surgical site infection. Infection control epidemiology: 1999;20(4).
3. De Lissovoy G, fraeman K, Hutchins V, Murphy D, Song D, Vaughan BB. Surgical Site infection : incidence and impact on hospital utilization and treatment costs. Am J Control. 2009;37(5).
4. National Nosocomial Infection Surveillance System. National Nosocomial Infection Surveillance System Report, Am J Infect Control 2004;32.
5. Mangram A.J. Horan TC, Pearson ML, Silver LC, Jarvis WR et al. Guideline for prevention of surgical site infection. Infection control epidemiology: 1999;20.
6. Tetsuya Kawakita, Helain J. Landy, Maternal Health Neonatal perinatal. 2017; 3:12 published online 2017;jul 5.
7. Tran TS, Jamulitrat S, Chogsuvivatwong V, et al. Risk factors for Post caesarean surgical site infection. Obstet Gynecol. 2000; 95(3) [pubmed].
8. Schneid-Kofman N, Sheiener E, Bar-David J, et al. Prevalence and clinical significance of post partum endometritis and wound infection. Infect Dis Obstet Gynecol. 2000(8).
9. Jama FE. Risk factors for wound infection after lower segment caesarean section. Qatar Med 2012;(2).
10. Chaim W, Bashiri A, Bar-David J, et al. Prevalence n and clinical significance of postpartum endometritis and wound infection. Infect Dis Obstet Gynecol.2000;(8).
11. Anderson DJ, Sexton DJ, Post T. Antimicrobial prophylaxis for prevention of surgical site infection in adults. UpToDate, Waltham;2016.

Original Articles

Association of Diabetes Mellitus with Disease Severity and Outcome in Covid-19 Patients

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KEY WORDS : Covid-19, Sars cov2, Diabets mellitus, Dm2, Hba1c

ABSTRACT

Background: The severity and mortality of covid 19 are linked to various comorbidities, Diabetes mellitus being one among them. Diabetes mellitus is an important comorbidity which is hypothesized to lead to worse outcomes in Covid 19

Methods: A retrospective observational study of all indoor patients admitted with covid-19 from 1 may to 7 may 2020 was conducted at a tertiary care hospital. Medical case records were searched for various parameters and data was collected on which statistical analysis was done by SPSs 25

Results: Increasing severity of diabetes was associated with worse radiological, clinical and biochemical characteristics. Higher hba1c was associated with increased O2 requirements

Conclusion: Severity of covid 19 is proportional to underlying severity of Diabetes in the above subset of patients.

INTRODUCTION

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes coronavirus disease (COVID-19). The severity and mortality of covid 19 are hypothesized to be related to age and comorbidities including diabetes, hypertension, cardiovascular and cerebrovascular disease. World Health Organization (WHO) has declared the Coronavirus Disease 2019(Covid-19) as it has caused more than 500,000 deaths and spread to more than 200 countries [1][2][3]

Diabetes is an important comorbidity contributing to adverse outcome in covid 19 patients. There have also been reports of new onset of diabetes in covid 19 patients. We undertake following study to find out prevalence of diabetes in covid 19 patients and its association with disease severity and outcomes

India has a rising prevalence of diabetes. The overall prevalence of diabetes in all states of India was 7·3% (95% CI 7·0-7·5) as per a study from 017.[4] Patients with diabetes are more prone to a wide variety of secondary infections including bacterial, fungal, viral, etc. thus these patients might be at increased risk of covid 19.[5-10] In this study we undertake a retrospective analysis of 328 patients with Covid-19 confirmed by a nasopharyngeal swab and compare their hematological and biochemical parameters of disease severity and prognosis on admission and their peak values and in hospitalized outcomes of study population.[11]

MATERIALS AND METHODS

We conducted a retrospective observational study of all indoor patients admitted with covid-19 in a tertiary care hospital (SVP ISMR, Ahmedabad) from 1 May 2020 to 7 May 2020. A total of 328 patients were enrolled. All patients included in the study were diagnosed as per WHO guidelines.[5] The study was approved by Institutional ethics board of Smt NHL Municipal Medical College, Ahmedabad, Gujarat, India.

Medical case records were searched for following parameters :

1. Hba1c on admission
2. History of dm2
3. Disease category on admission (mild/moderate/severe) and any change in category post admission
4. Hematologial and biochemical parameters of disease severity and prognosis on admission and their peak values
5. In hospitalized outcomes of study population

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6. To find correlation between diabetic control with derangement in lab parameters and in hospital worsening of clinical outcome

2.1 Statistical Analysis

Statistical analysis was done using SPSS 25.0 to arrive at aims and objectives as above. Continuous variables were shown as Median and Interquartile range(IQR) and compared by Kruskal wallis H test . Stepwise regression with forward and backward selection was used to determine association of diabetes with xray involvement in covid-19 and need for o2. Adjusted hazard ratio(aHR) with 95% confidence interval (CI) was presented as effect size. A p value pf<0.05 was considered statistically significant.

2.2 Inclusion Criteria:

All indoor patients of covid 19 admitted in SVP ISMR from 1 May, 2020 to 7 May 2020 with age >= 12 years

2.3 Exclusion Criteria

2.4 Diagnostic criteria:

Covid 19 diagnosed by Sars-CoV 2 RT PCR nasopharyngeal and oropharyngeal swab

In hospital outcomes were categorized as

1. discharge on room air
2. discharge on o 2
3. death

In hospital worsening was defined as shift from ward to ICU

Diabetes mellitus was defined as:[6]

1. Fasting plasma glucose>= 126 mg/dl* or
2. 2 hour post prandial glucose>= 200 mg/dl** or
3. Hba1c>= 6.5% or
4. Random plasma glucose>= 200mg/dl with symptoms of hyperglycemia or hyperglycemic crisis

*Fasting defined as no caloric intake for 8 hours atleast

**OGTT performed as prescribed by WHO with a glucose load equivalent to 75 g anhydrous glucose

Classification of diabetes control was grouped as:

1 : <5.7 or non diabetic as per FBS/PPBS/RBS

2 :5.7-6.4 - pre diabetic

3: 6.5-8.4 - mild diabetes

4: >=8.5 - moderate-severe diabetes

RESULTS AND DISCUSSION

3.1 Baseline demographics of patients of Covid 19

TABLE 1 : There were a total of 328 consecutive confirmed patients analyzed and 79 of those patient had diabetes. (24.08%). 87 patients had comorbidities other than diabetes with HTN (73,83.9%) being most common followed by Ischemic heart disease/Left ventricular dysfunction/Acute oronary syndrome/Valvular heart disease (12, 13.7%), hypothyroid(9,10.3%)

Table 1 Comorbidities in Patients other than Diabetes

HTN	73	0.8390804598
IHD/LVD/ACS	12	0.1379310345
HYPOTHYROID	9	0.1034482759
COPD/ASTHMA/TB	4	0.0459770114 9
CLD	3	0.0344827586 2
CKD	2	0.0229885057 5
CVA	2	0.0229885057 5
RA	1	0.0114942528 7
PSORIASIS	1	0.0114942528 7
ADDISON'S	1	0.0114942528 7

3.2 Hematological and Biochemical parameters in patients of Covid 19 on admission and their peak values

Significant difference were seen in CRP values on admission and peak(p<0.05), NLR on admission and peak(p<0.05), ferritin on admission and peak(p<0.05), D dimer on admission and peak(p<0.05), peak PCT value(P<0.05) and peak NT pro BNP value(p<0.05) with severity of diabetes(grouped as per hba1c)

3.3 Radiological parameters in patients of Covid 19 at peak involvement

Increasing severity of diabetes was associated with more severe radiological involvement as defined by maximum percentage of lung fields involved on chest xray. P value for involvement of xray and group of hba1c was found to be significant(<0.05). [table 4]

Table 2 : Radiological parameters in patients of Covid 19 at peak involvement

	SIGNIFICANT RADIOLOGICAL CHANGES		
GROUP OF HBA1C	NO	<50%	>50%
1	65.90%(135)	31.70%(65)	2.40%(5)
2	32.60%(14)	51.20%(22)	16.30%(7)
3	24.50%(12)	55.10%(27)	20.40%(10)
4	20.00%(6)	56.70%(17)	23.30%(7)

P value 0

Table 3 : Multivariate regression with O2 requirement as dependent variable and age, group, ct value, sex, comorbidities as independent variable

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.412	0.162		2.539	0.012
CT VALUE	0.013	0.005	0.179	2.713	0.007
GROUP OF HBA1C	0.138	0.034	0.315	4.079	0
COMORBIDITIES	0.131	0.073	0.134	1.791	0.075
SEX	-0.082	0.056	-0.096	-1.471	0.143
AGE	0.005	0.002	0.194	2.397	0.018
a Dependent Variable: O2					

Table 4 : Peak O2 Requirement and Group of Diabetes

GROUP	1	2	3	4	5	6	MEAN
1	92.2	5.853659	0	0	0	2	1.15611
2	67.4	14	2.3	2.3	0	14	1.976744
3	51	30.6	6.1	0	0	12.2	2.04088
4	33.3	33.3	16.7	0	3.3	13.3	2.466667

We also performed a stepwise regression with forward and backward selection and found that age® square change= 0.192) and group of diabetes (R square change=0.026) were significantly associated with radiological changes (p value< 0.05) while CT value, sex and comorbidities were not significantly associated with xray changes.[table 5,6]

3.4 O2 Requirement in patients with covid 19

A stepwise regression with forward and backward selection was performed and found that group of diabetes(R square change = 0.199) , age (R square change= 0.053) and ct value (r square change= 0.028) were significantly associated with patient of covid 19 requiring o2 while other comorbidities and sex were not significantly assosciated. [table 7,8]

KEY FOR PEAK O2 REQUIREMENT

1: RA	2: O2 UPTO 6L
3: O2 6-14L	4: HFNC
5: NIV	6: INTUBATED

3.5 Analysis of deaths in covid-19

There were 21 deaths in this sample. The median age of patients succumbing to covid 19 was 67.5 (IQR 52.75-72.75). 75% were Male and 25% were female. 50% had other comorbidities while 50% did not have other comorbidities. The median CT value was 29(IQR 26-32.75). 20% belonged to group 1, 30% to group 2, 30% to group 3, 20% to group 4. Diabetes was statistically insignificant as a contributor to mortality.

CONCLUSION

Biochemical and radiological parameters were found to be proportionately worse in patients with increasing severity of diabetes.

Age and severity of diabetes were the only parameters found to be associated with severity of radiological changes. The viral load was not found to be associated with severity of radiological changes.

Age, severity of Diabetes and ct value were the parameters found to be associated with o2 requirements in Covid 19 patients. Thus, The outcomes were worse among diabetics as compared to non diabetics and even among diabetics they were associated with level of control of Diabetes. The population attributable risk for o2 requirements in diabetics was also high.

The sample size of the study was inadequate to comment regarding association of severity of diabetes and mortality in Covid-19 patients.

Thus, control of severity of diabetes is an important strategy to reduce severity of covid 19 cases.

REFERENCES

1. Yang, J., Zheng, Y., Gou, X., Pu, K., Chen, Z., Guo, Q., Ji, R., Wang, H., Wang, Y. and Zhou, Y., 2020. Prevalence Of Comorbidities And Its Effects In Patients Infected With SARS-Cov-2: A Systematic Review And Meta-Analysis.
2. Zhou F., Yu T., Du R. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. Lancet. 2020; 39510229 :1054-1062
3. Clinical management of COVID-19. (n.d.). Retrieved August 13, 2020, from https://www.who.int/ publications/i/item /clinical-management-of-covid-19
4. Anjana RM, Deepa M, Pradeepa R, et al. Prevalence of diabetes and prediabetes in 15 states of India: results from the ICMR-INDIAB population-based cross-sectional study [published correction appears in Lancet Diabetes Endocrinol. 2017 Aug;5(8):e5]. Lancet Diabetes Endocrinol. 2017;5(8):585-596. doi:10.1016/S2213-8587(17)30174-2
5. Hodgson K, Morris J, Bridson T, Govan B, Rush C, Ketheesan N. Immunological mechanisms contributing to the double burden of diabetes and intracellular bacterial infections. Immunology. 2015;144(2):171-185. doi:10.1111/imm.12394
6. American Diabetes Association. (2020, January 01). 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes-2020. Retrieved August 13, 2020, from https://doi.org/10.2337/dc20-S002
7. Lim S, Bae JH, Kwon HS, Nauck MA. COVID-19 and diabetes mellitus: from pathophysiology to clinical management. Nat Rev Endocrinol. 2021 Jan;17(1):11-30. doi : 10.1038/s41574-020-00435-4. Epub 2020 Nov 13. PMID: 33188364; PMCID: PMC7664589.
8. Carey IM, Critchley JA, Dewilde S, Harris T, Hosking FJ, Cook DG. Risk of infection in type 1 and type 2 diabetes compared with the general population: a matched cohort study. Diabetes Care. 2018;41(3):513–21.
9. Filardi T, Morano S. COVID-19: is there a link between the course of infection and pharmacological agents in diabetes? J Endocrinol Invest. 2020 Aug;43(8):1053-1060. doi : 10.1007/s40618-020-01318-1. Epub 2020 Jun 3. PMID: 32495299; PMCID: PMC7268955.
10. Mirjalili H, Dastgheib SA, Shaker SH, Bahrami R, Mazaheri M, Sadr-Bafghi SMH, Sadeghizadeh-Yazdi J, Neamatzadeh H. Proportion and mortality of Iranian diabetes mellitus, chronic kidney disease, hypertension and cardiovascular disease patients with COVID-19: a meta-analysis. J Diabetes Metab Disord. 2021 Feb 26:1-13. doi: 10.1007/s40200-021-00768-5. Epub ahead of print. PMID: 33654683; PMCID: PMC7907796.
11. España PP, Bilbao A, García-Gutiérrez S, Lafuente I, Anton-Ladislao A, Villanueva A, Uranga A, Legarreta MJ, Aguirre U, Quintana JM; COVID-19-Osakidetza Working group. Predictors of mortality of COVID-19 in the general population and nursing homes. Intern Emerg Med. 2021 Jan 5:1–10. doi: 10.1007/s11739-020-02594-8. Epub ahead of print. PMID: 33400164; PMCID: PMC7783294.

Original Articles

Analysis of maternal outcomes in referred term obstetric emergency cases to tertiary care centre

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KEY WORDS : Emergency obstetrics care, Obstetric emergencies, maternal outcome, Referred obstetric emergencies.

ABSTRACT

Background : The major drawback leading to maternal morbidity and mortality in our country is lack of basic facilities and delayed referral to the tertiary care centre. This study was conducted to identify the pattern of obstetric referral and its primary reasons and compare the outcome of term obstetric emergencies referred to tertiary care centre.

Method : This prospective observational study was conducted for period of 6 months from December 2020 to May 2021 in G.K.General hospital Bhuj, all term referred cases were analysed for cause of referral, their condition and outcome.

Results: Most of the patients were exhausted (34.16%). Majority were referred for anemia (12.55%), previous cesarean section (11.68%), prolonged labour (8.2%), pre-eclampsia (3.03%) and eclampsia (1.73%). Most patients were given more than one intervention. Emergency LSCS was the common mode of delivery (43.63%).

Conclusions: Our study concluded that the major contributors of poor pregnancy outcome were illiteracy and ignorance of females regarding health care requirements and poor infrastructure. Prompt identification of high risk factors should be done, health care workers should be trained in essential and emergency obstetrics care, timely referral is crucial for a satisfactory maternal and fetal outcome

INTRODUCTION

The world has come a long way from the times “When a woman surviving childbirth was considered to be blessed with 'A Second life' to the present WHO theme stating “Every mother counts!”

An obstetric emergency can be defined as a situation of serious and often dangerous nature developing suddenly and unexpectedly and demanding immediate attention in order to save life.Pregnancy and childbirth are the physiological events occurring in lifetime of a womanwhich are associated with many obstetrical problems which lead to maternal morbidity and mortality like post partum hemorrhage , hemorrhagic shock, anemia and eclampsia.

Due to illiteracy and lack of seeking of antenatal healthcare to health facilities ,there has been delays in the identification of preventable high risk factors in an antenatal woman and delay in referrals to the tertiary care centres.

The other factors contributing to adverse maternal outcomes are lack of trained birth attendants, lack of education, low status of women in society, poor families, financial dependency of women and delay in seeking medical treatment.

There has been major changes in handling obstetric emergencies as per new guidelines emerging

At the level of primary health centres ,basic facilities of a clean labour room with all emergency drugs to manage labour efficiently and trained staff are required which is lacking at many centres.

At the level of community health centres, there is lack of skilled obstetricians and an anesthetist which will require referral of the patient to a tertiary health centre.

At the level of tertiary health centres , there is availability of obstetricians, anesthetists and blood banking facilities with proper OT set-up and ICU facilities.

Primary care services are incomplete if they lack appropriate and efficient referral systems to secondary and tertiary care hospitals.

The 3-tier healthcare delivery system is designed in a manner to refer a patient in need of a higher level of expertise and care accordingly, from primary to

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secondary to tertiary level, and if necessary, from primary directly to tertiary level center.

It is recommended to electively refer pregnant women with previous cesarean section, breech presentation, transverse lie, multiple gestation, hypertension and severe anemia for a delivery before any complication arises to health care centre where all the facilities to deal with the complications are available.

Our hospital being the only tertiary care centre in our district ,we receive a lot of term referred cases for the same reasons, where the most common reason in our district for delays and adverse outcomes being long distance between the primary site of referral to the tertiary care centre with other contributing factors like illiteracy ,more number of pregnancies, no antenatal visits, financial constraints, fear of approaching higher centres, fear of covid 19 in recent era.

With this background present study was undertaken to examine the current nature of referrals to evaluate the maternal outcome in referred patients and analysis of appropriateness and timeliness of referrals.

METHODS

In this prospective observational study, all pregnant female (both primigravida and multigravida) who were referred as obstetric emergencies with gestational age>37 weeks with established labour were included in the study. All booked patients with gestational age<37 weeks which are not emergencies and if having medical or surgical complications were excluded from the study. Study was conducted during the period of December 2020 to May 2021.

Indication of referral, general condition at the time of admission, immediate intervention done and mode of delivery were recorded. Maternal complications, tertiary level facility provided and duration of hospital stay were also recorded.

Detailed clinical history including parity, obstetrical history was taken. General examination, systemic examination, obstetrical examination was done. All the routine investigations including complete hemogram, urine routine examination, liver and kidney function test, ABO grouping and Rh typing, blood sugar estimation and viral markers were carried out. Depending on the general condition of the patients, immediate management was done. Patients in shock were resuscitated with crystalloids followed by colloids, and even blood transfusion was done as per necessitation. Patients with previous cesarean sections were evaluated and accordingly trial of scar or lower segment cesarean sections were done. Patients with severe hypertension were managed with injectable antihypertensives (Labatolol), while those with seizures (eclampsia) were given injection magnesium sulphate as per Pritchard's regimen. Definitive interventions were case depended. In cases of prolonged labour-after assessing the cause measures such as augmentation with oxytocin followed by vaginal delivery, augmentation with oxytocin followed by instrumental vaginal delivery. In obstructed labour, emergency lower segment cesarean section was done. In borderline pelvis, trial of labour followed by vaginal (or instrumental) delivery of baby. In cephalopelvic disproportion, depending on the grade: if severe then lower segment cesarean section or if mild then vaginal (or instrumental) delivery of the baby was done

In malpresentations and malposition, accordingly vaginal delivery or emergency lower segment cesarean section was done. In preeclampsia and eclampsia, control of hypertension followed by induction and delivery of baby was done. In obstetrical hemorrhage, depending on the cause measures were taken. In abruptio-placentae, augmentation with oxytocin followed by vaginal delivery . In placenta previa, emergency lower segment cesarean section was done. In post- partum hemorrhage, uterotonics were given along with resuscitation of patient, followed by exploratory laparotomy and hysterectomy in non-responding patients. In uterine rupture, exploratory laparotomy followed by rent repair or hysterectomy as per necessitated. In retained placenta, resuscitation followed by manual removal of placenta under general anesthesia was done. In retained second twin, depending on the condition of mother and baby, if live and cervical OS fully dilated, oxytocin augmentation followed by vaginal (or instrumental) delivery of the baby was done.

Plan for statistical analysis

Data collected were checked for consistency and completeness. Then it was entered in database software Analysis was carried out wherever required to evaluate the results using descriptive statistics. Test of significance using Chi-square test was done and $p<0.05$ was considered significant.

RESULTS

Total of 120 obstetric emergencies were enrolled for the study. The general condition of most of patients were exhausted (n=41), fair in 33 patients, 9 in shock, 22 with pallor, 12 with seizures, and 3 with septic shock as shown in Table 1.

Table 1: General condition of patient at the time of referral.

General condition	Frequenc y	Percentage (%) (out of 120 cases)
Fair	33	27.5
Exhausted	41	34.16
Shock	9	7.5
Seizures	12	10
Septic shock	3	2.5
Pallor	22	18.33

Distribution of indication of referral :

Majority were referred with indication of referral as anemia in 12.55%, previous caesarean section in 11.68%, prolonged labour in 8.2%, post-partum hemorrhage in 8.65%, pre-eclampsia and severe pre-eclampsia in 3.03%, gestational hypertension in 2.59%, eclampsia in 1.73%, placenta previa in 1.51%, abruptio-placentae in 2.3%, PROM in 4.76%, uterine rupture in 1.73%, multiple gestation (twin pregnancy) found in 6.92%, retained second twin seen in 0.21%, retained placenta found in 1.08%, postdatism in 3.89%, hepatitis and HIV reactive in 2.59 and 4.76%, intrauterine death in 6.92% cases were also reported.

Various interventions adapted for management :

Most of the patients were given more than one intervention. Anti-hypertensive medications were given to patients with gestational hypertension, pre- eclampsia, and severe preeclampsia in 30 cases. Seizures controlled with MgSO4 therapy in 4 patients. Blood transfusion was given to 42 patients. Manual removal of placenta was done in three cases out of five cases of retained placenta as two patient with retained placenta underwent hysterectomy. Laparotomy was done in three patients for uterine rupture where hysterectomy was done in 4 patients and 1 patient underwent rent repair.

Emergency LSCS was done in 72 patients, 51 patients delivered by Normal vaginal delivery, five were Forceps assisted vaginal delivery, 11 were ventouse assisted vaginal delivery, 14 were VBAC and 12 by assisted breech vaginal delivery as shown in Table 2

Complications encountered during the study were a lot considering the emergency situation and referral time. PPH was encountered in 40 patients, anemia in 58, fetal distress in 16 patients, shock in 9 patients, headache in 8 patients, MSL in 16 patients, blurring of vision and DIC in 4 patients each, pyrexia, vulval edema, seizures and acute renal failure in 3 patients each, HELLP syndrome and septic shock in 3 patients each and one patient each had hematuria, uterine rupture, Couvelaire uterus and burn injury. Sixty-eight patients had no complication during their course of treatment.

As per Table 3, the tertiary level facilities given to the patients included transfusion (61 patients), HDU services (38 patients), universal precautions facility (6 patients), hemodialysis (3 patients) and ICU care (2 patients).

Table 2 : Mode of delivery.

Mode of delivery	Frequency	Percentage (%)
LSCS	72	43.63
Normal vaginal delivery	51	30.90
Forceps assisted vaginal delivery	5	3.03
Ventouse assisted vaginal delivery	11	6.66
VBAC	14	8.48
Assisted breech vaginal delivery	12	7.27

Tertiary level facilities	Frequency	Percentage (%)
Transfusion (PRBC and platelet)	61	39.86
HDU	38	24.83
Hemodialysis	3	1.96
ICU	2	1.30
Universal precaution	6	3.92

Table 4: Comparison of maternal complications and parity.

Maternal complications	Yes (%)	No (%)	TotaL	P value
Primigravida Parity	29 (65.90)	15 (34.09)	44 (100)	0.385
Multipara	44 (57.89)	32 (42.10)	76 (100)	(NS)
Total	73 (60.83)	47(39.16)	120 (100)	

Table 5: Duration of stay.

Duration of stay (Days)	Frequency	Percentage (%)
0-5	114	74.50
6-10	28	18.30
11-15	6	3.92
16-20	0	0
21-25	3	1.96
26-30	2	1.30

Maternal complications were found to be more in Primigravida (65.90%) as compared to multipara (57.89%) was statistically not significant (p>0.05)Most of the patients (114) were discharged within 5 days, 28 patients were discharged within 6-10 days, 6 patients within 11-15 days, 3 patients within 21-25 days and 2. patients within 26-30 days.

DISCUSSION

Among 120 patients who were referred to our hospital, 41 women were exhausted, 33 women were fair,9 women were in shock, 3 patient came in septic shock, 22 patients came with pallor,12 with seizures (Table 1).

The general conditions of patients on admission were unsatisfactory in 90% cases; majority arrived in a state of dehydration, exhaustion, with ruptured membranes, and infections. 10% cases were unconscious and in shock.[6] Majority were referred with indication of referral as anaemia in 12.55%, followed by previous caesarean section in 11.68%,postpartum haemorrhage in 8.65%,, pre-eclampsia and severe pre- eclampsia in 3.03%, prolonged labour in 8.2%, gestational hypertension in 2.59%, eclampsia in 1.73%, placenta previa in 1.51%, abruptio-placentae in 2.3%, PROM in 4.76%, uterine rupture in 1.73%, multiple gestation (twin pregnancy) found in 6.92%, retained second twin seen in 0.21%,retained placenta found in 1.08%, postdatism in 3.89%, hepatitis and HIV reactive in 2.59% and 4.76%, intrauterine death in 6.92% cases were also reported.

That majority of patients were referred for moderate to severe anemia (12.55%) cases and pregnancy with previous caesarean section (11.68%), hypertensive disorders of pregnancy (7.35%), malpresentation (6.49%), obstructed labour (3.89%), antepartum hemorrhage (3.89%), Anaemia of pregnancy (12.55%) as major cause of referral, followed by previous cs (11.68%), and hypertensive disorders of pregnancy accounted for 7.35% of referral indication.[5]

The causes of referral as Anemia, previous caesarean section, PIH , malpresentations , and MSL Due to unavailability of operation theatre, skilled obstetricians, anesthetics, blood and blood components, trained staff or basic infrastructure, the patients with previous caesarean section are referred to higher centres from PHC/CHC.

The present study shows that anemia, previous cesarean section and post partum hemorrhage were the leading causes in maternal complication in referred obstetric cases at term

CONCLUSION

The present study has shown that, in current scenario improper intra-natal care, non-availability of skilled birth attendants, lack of adequate facilities and poor accessibility for MCH services are the major causes of referral to tertiary health centers from rural areas being responsible for most of the maternal and perinatal morbidity and mortality.

The distance of referral institutes from phc is directly proportional to the propensity of obstetrics complications. Most of the maternal complications occurs in the third trimester of pregnancy. Anemia has a major burden on maternal morbidity and mortality. Hemorrhage, hypertensive disorder of pregnancy, perpuerial sepsis, ruptured uterus, cardiac failure due to severe anemia and viral hepatitis which are unbooked and referred from a greater distance are the major cause of maternal mortality.

The health care workers at primary centres should be trained properly. Health education and awareness by mass media and non-government organization can improve the health and social status of women in our country.

REFERENCES

1. Ram S, Paswan B, Singh LL. Ministry of Health and Family Welfare. Facility survey, Phase II. Mumbai: International Institute for Population Sciences (India) 2001. Available at: www.rchiips.org/pdf/RCH2/national_facility_report_RCH-II.pdf. Accessed on March 20, 2016.
2. Mavalankar DV, Rosenfield A. Maternal Mortality in Resource-Poor Settings: Policy Barriers to Care. Am J Public Health. 2005;95(2):200-03.
3. Thaddeus S, Maine D. Too far to walk: Maternal mortality in context. Soc Sci Med.1994;38(8):1091110.
4. Costello A, Osrin D, Manandhar D. Reducing maternal and neonatal mortality in the poorest communities. Br Med J. 2004;329(7475):1166-68.
5. Rathi C, Gajria K, Soni N. Review of Referred Obstetric Cases – Maternal and Perinatal Outcome. Bombay Hosp J. 2010;52(1):52-6.
6. Sharma S. Evaluation of referred obstetric cases, Indore: Devi Ahilya Univ. 2007.
7. Patel HC, Singh BB, Moitra M, Kantharia SL. Obstetric Referrals: Scenario at a Primary Health Centre in Gujarat. Natl J Community Med. 2012;3(4):711-4.8.
8. Khatoon A, Hasny SF, Irshad S, Ansari J. An audit of obstetrics referrals to Abbasi Shaheed Hospital. Pak J Surg Gynaecol Obstet. 2011;27(4):304-8.

Original Articles

"MDCT findings in Novel Covid-19 disease in survivors and non-survivors"

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ABSTRACT

AIMS AND OBJECTIVES:

1. To compare the CT findings between survivors and non survivors diagnosed with COVID-19 infection.

2. To correlate the severity of CT scan findings by CT Severity Score in COVID - 19 pneumonia helping to predict prognosis of patients diagnosed with COVID-19 infection.

METHODS: MDCT was performed on 128 slice PHILIPS CT Scanner machine on 80 patients from APRIL 2020 to OCTOBER 2020 in our SVP Hospital, NHLMMC, Ahmedabad. No age and gender bias was followed.

RESULT: Our study shows that out of 80 patients(40 survivors and 40 non-survivors) studied, 37 patients showed ground glass opacities as the commonest finding. Out of 40 non survivors studied, 25 patients had CT Severity Index of > 18 and 15 patients showed crazy pavement appearance. Out of 40 survivors studied, 37 patients had CT Severity index of ≤18 and only 6 patients showed crazy pavement appearance.

CONCLUSION : From comparison between survivors and non survivors, the study concluded that non survivors had crazy paving pattern with increased CT severity index as compared to survivors. Thus, we concluded that CT Severity index helps us in predicting the prognosis of the patients. Higher the CT Severity index , higher the chances of mortality and morbidity. Parenchymal pattern that can help in predicting the prognosis is appearance of the crazy paving pattern which may increase the rate of mortality.

DECLARATIONS : Funding: None, Conflict of interest: None declared

INTRODUCTION

The corona virus infection outbreak initially began in December 2019, in Wuhan, Capital of China.

Since the outbreak of COVID-19 started in India, HRCT of the patients who were suspicious and those with RT-PCR positive are being done at our institution in SVP Hospital. We have our own institutional experience of COVID-19 pneumonia. Number of HRCT findings are considered classic for COVID 19 infection with severity of these findings can help in predicting the prognosis of the patient.

MATERIALS AND METHODS

Retrospective observational study

DURATION OF THE STUDY

From APRIL 2020 to OCTOBER 2020

STUDY SITE

Department of Radio-Diagnosis; SVPIMSR

Smt. NHL MMC; Ahmedabad.

INCLUSION CRITERIA

- All patients with positive RT-PCR result forSARS-CoV-2/Suspected for COVID during the specified period
- 40 survivors and 40 non survivors with no age group and gender bias followed.
- HRCT Scan and Pulmonary Angiography with contrast study was being done (if required) as per protocol of the department.

Imaging Parameters:

All scans were performed on 128 slice PHILIPS CT Scanner. Scan Parameters:

1. Slice Thickness: 1.00 mm
2. Collimation: 128 x 1.00
3. Pitch : 0.95
4. mAS : 160
5. Kvp : 120

Exclusion criteria : None

Clinical and Laboratorical data was extracted from HIS and noted. This included CRP, IL-6 and Serum Ferritin levels.

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METHOD

- Volumetric data was reconstructed in the multiple planes.
- A semi-quantitative CT score was calculated based on the extent of each lobar involvement.
    - <5% lung parenchyma involved =1
    - 5-25% lung parenchyma involved =2
    - 25-50% lung parenchyma involved =3
    - 50-75% lung parenchyma involved =4
    - >75% lung parenchyma involved =5

The total CT score would be the sum of the individual lobar scores and can range from 0(No involvement) to 25(Maximum involvement), when all the five lobes show more than 75% involvement.

CT Severity index <10 is considered to be **MILD** involvement.

CT Severity index 10-18 is considered to be **MODERATE** involvement.

CT Severity index >18 is considered to be **SEVERE** involvement.

Pattern of parenchymal involvement was compared between 2 groups.

Parenchymal patterns were grouped in four categories:

It included:

1. Types of parenchymal involvement:
    a. Presence of ground glass opacities
    b. Presence of ground glass opacity and dense consolidation
    c. Crazy paving pattern(Ground glass opacity with interstitial septal thickening) d.Presence of crazy paving pattern and dense consolidation
2. Site:
    a. Subpleural
    b. Peribronchovascular
3. Lobes involved:
    a. Unilateral/ Bilateral
    b. Upper/ Middle/Lower lobes

Patients survival status was extracted from the patient records. These data allowed stratification of all patients into following two groups:

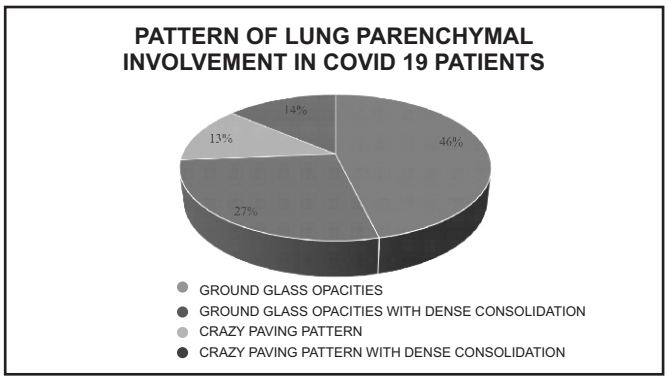
- Patients who survived COVID -19 infection
- Patients who did not survive COVID -19 infection

RESULTS

The study includes 40 survivors and 40 non-survivor patients with confirmed COVID -19 infection. Mean Age Group : 15-85 years

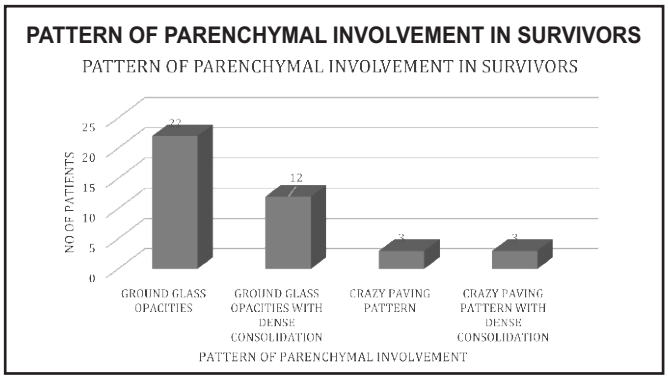
Clinical Symptoms : Fever (83%), Cough (68%) and Dyspnoea (40%)

CHART 1: VARIOUS PATTERNS OF COVID 19 PNEUMONIA PATIENTS ON HRCT THORAX



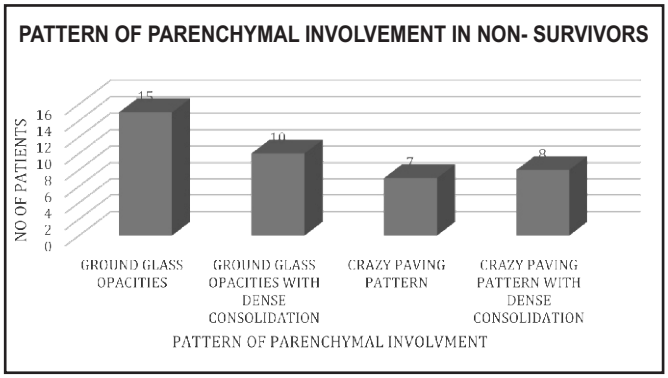
Most common pattern of lung involvement in COVID19 pneumonia was ground glass opacities.

CHART 2: CT PATTERN IN COVID 19 SURVIVORS



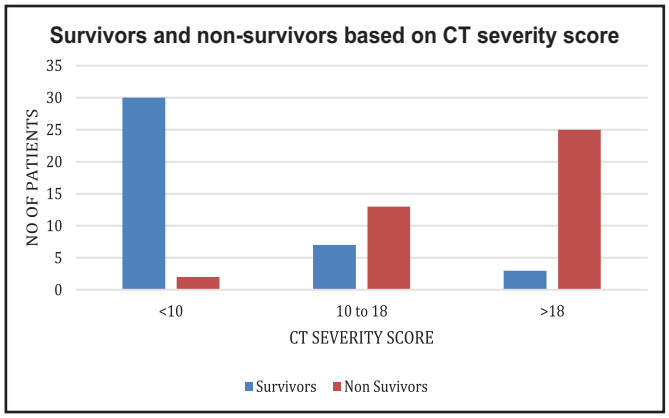
Crazy paving pattern was less commonly seen in COVID 19 survivors.

CHART 3 : CT PATTERN IN COVID 19 NON SURVIVORS



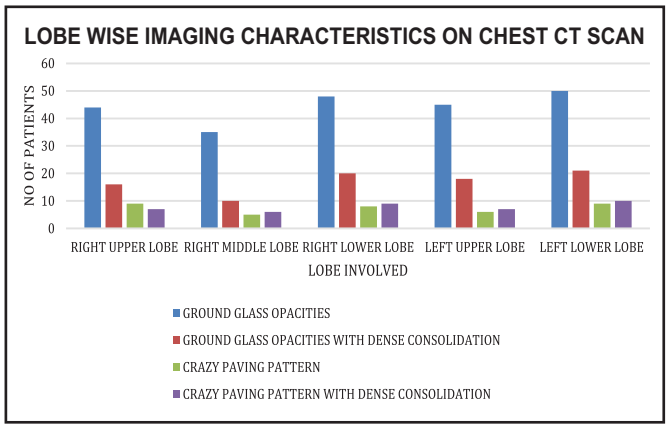
Crazy paving pattern was more commonly seen in COVID 19 non- survivors.

CHART 4 : CT SEVERITY SCORE IN COVID 19 SURVIVORS AND NON SURVIVORS



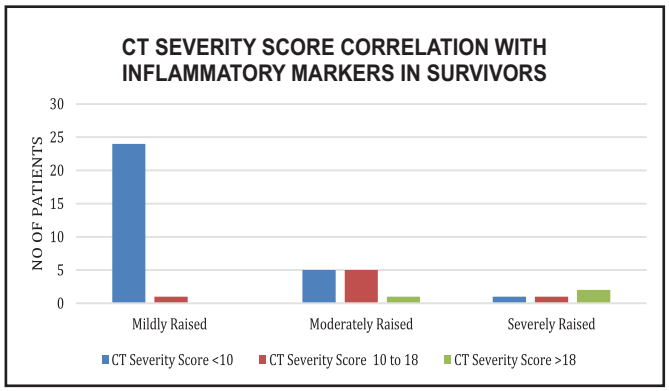
CT severity score >18 was associated with increased mortality in COVID 19 pneumonia patients.

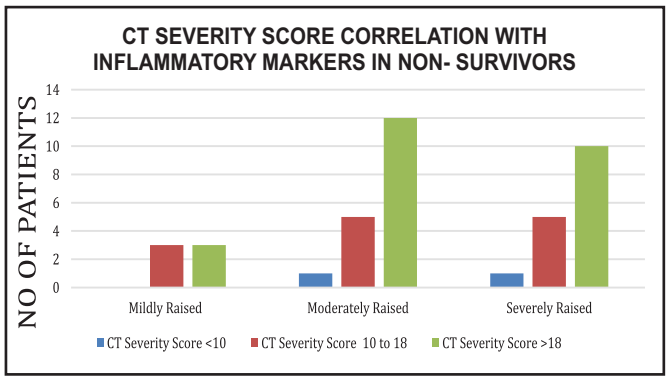
CHART 5: LOBE WISE IMAGING CHARACTERISTICS ON CHEST CT SCAN



All 4 patterns of lung parenchymal involvement was more commonly seen in bilateral lower lobes as compared to other lobes.

CHART 6: CT SEVERITY SCORE CORRELATION WITH INFLAMMATORY MARKERS IN SURVIVORS AND NON SURVIVORS





Significant correlation is seen between CT Severity Index and Inflammatory markers.

Increased CT Severity Index was associated with increased inflammatory markers in both survivors and non survivors.

DISCUSSION

On January 30th, 2020 WHO declared COVID 19 as a sixth health emergency deserving international attention. COVID-19 is highly contagious and has spread world wide. HRCT Thorax can be considered as standard test for prognosis of COVID-19 pneumonitis.

The outbreak of COVID-19 has had a strong impact worldwide. Almost all countries have suffered huge losses in health, society and economy. Our results may be potential risk factors to identify patients with poor prognosis, help clinicians to provide earlier interventions for these patients, and improve their survival rate.

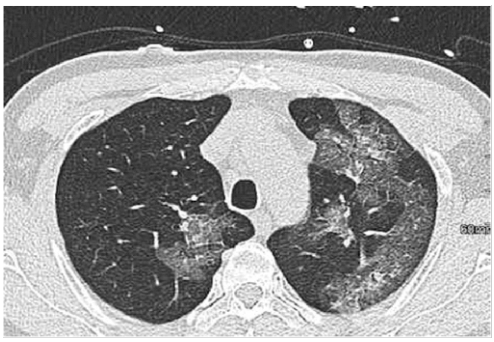
Currently RT-PCR has been identified as the most effective and accurate way to diagnose COVID 19 infection; but imaging - specifically CT scans can be helpful in assessing the extent and outcome of the disease. Pin-pointing measurable features of CT scans could go even further in augmenting evaluation and triage of patients.

Chest CT imaging plays an important role in the diagnosis and dynamic evaluation of COVID-19. Typical imaging features of multiple ground-glass opacities and/or consolidations in patients with COVID-19 pneumonia have been detailedly described in previous reports. From the current study, we found that GGO and GGO with consolidation were the most predominant imaging features in patients who died from COVID-19, which is correlated with the pathological findings of COVID-19 that severe inflammatory exudation in intra-alveolar spaces and hyaline membrane formation. The severity score of

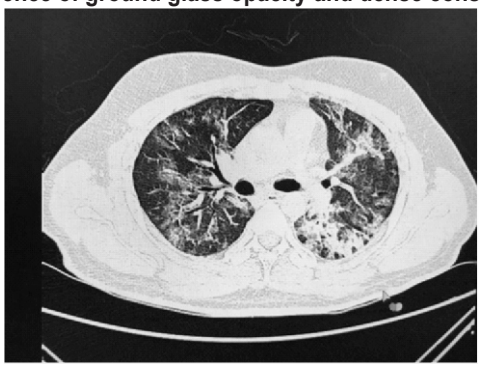
lung involvement in patients who died from COVID-19 was also significantly greater than that in patients with mild to moderate COVID-19. What is more, the mild-moderate correlation between chest CT severity scores and systemic inflammation activation was also preliminarily demonstrated in this study. Therefore, the imaging features and dynamic changes could provide the most direct evidence for assessing the severity of the disease and the prognosis.

The predominant CT findings of COVID-19 infection are bilateral, peripheral, and basal predominant ground glass opacities, consolidation or both. Ground glass opacities has also been frequently reported to have round morphology or a "crazy paving" pattern. Song Fengxiang et al included 51 patients and found that 30% of the lesions were pure ground glass opacities, 39% were ground glass opacities with interstitial septal thickening, 18% were ground glass opacities with consolidation , 13% were consolidation lesions. [12] In our study we found that most common findings were bilateral ground glass opacities (46 %) followed by crazy paving pattern (27%) and bilateral ground glass opacities with consolidation (27%) with predominant bilateral involvement in subpleural and peri-broncho-vascular distribution. Bilateral and multifocal involvement is more than unilateral involvement in our study.

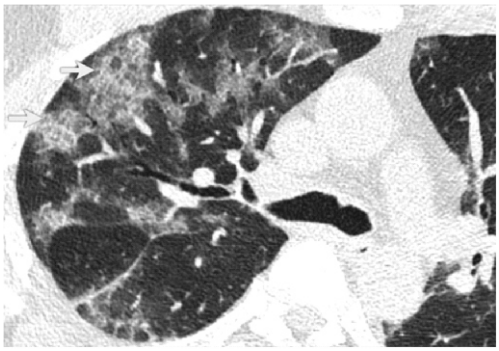
(A) Presence of ground glass opacities



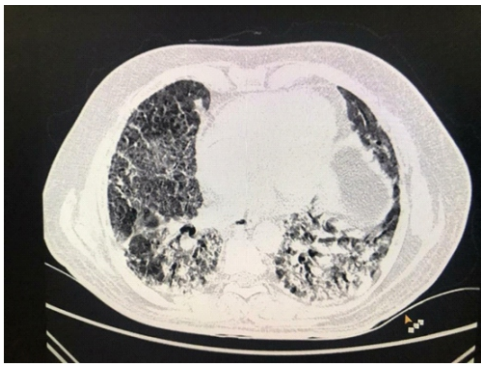
(B) Presence of ground glass opacity and dense consolidation



(C) Crazy paving pattern(Ground glass opacity with interstitial septal thickening)



(D) Presence of crazy paving pattern and dense consolidation



CT INVOLVEMENT SCORE

The severity of the lung involvement on the CT correlates with the severity of the disease. There are 2 methods for the assessment of CT severity score:

1) By scoring the percentages of each of the five lobes that is involved:

1. < 5% involvement
2. 5%-25% involvement
3. 26%-49% involvement
4. 50%-75% involvement
5. > 75% involvement.

The total CT score is the sum of the individual lobar scores and can range from 0 (no involvement) to 25 (maximum involvement), when all the five lobes show more than 75% involvement.

Some say that the percentage of lung involvement can be calculated by multiplying the total score times 4.

This however is not true. Suppose that all lobes have a 10% involvement, then this would lead to an overall score of 10, which could lead to the impression that 40% of the lungs are involved.[9]

On reviewing this retrospective study, a CT score of ≥ 18/25 was associated with increased mortality risk and was found to be associated with increased risk of mortality. Similar findings were concluded in a study performed by Marco Francone, Franco Lafrate and Carlo Catalano.[3,1]

CONCLUSION

CT plays an important role in the diagnosis and extent of pulmonary involvement of COVID-19 pneumonia.

The CT severity score and certain pattern of parenchymal involvement like crazy paving pattern demonstrated a significant correlation with the patients' mortality and severity of illness in COVID-19 pneumonia.

REFERENCES

1. Yang R. and Li X. et al (2020) Chest CT Severity score: An Imaging tool for assessing severe COVID 19 Vol.2 No.2 China: Radiology: Cardiothoracic Imaging RSNA
2. AiT. YangZ. and HouH. etal. Correlation of Chest CT and RT-PCR Testing in Coronavirus Disease 2019 (COVID-19) in China: A Report of 1014 cases. Radiology. 2020;200642.
3. Francone M., Lafrate F., Catalano C et al(2020) Chest CT score in COVID -19 patients: correlation with disease severity and short-term prognosis Italy :European society of Radiology 2020
4. ZouL. RuanF. and HuangM. etal. SARS-CoV-2 Viral load in Upper Respiratory Specimens of infected patients. N Engl J Med. 2020; 382(12):1177-1179.
5. FangY. ZhangH. and XieJ. etal. Sensitivity of Chest CT for COVID-19: Comparison to RT-PCR. Radiology. 2020;200432.
6. Palmer W. (2020) CT Severity scores can determine COVID-19 extent
7. RubinGD. RyersonCJ. and HaramatiLB. etal. The Role of Chest Imaging in Patient Management during the COVID-19 Pandemic A Multinational Consensus Statement from the Fleischner Society, Radiology: Radiological Society of North America;2020; 201365.
8. Lotfi M. and Moghadami M. et al (2020) Introduction of a Radiologic severity index for the 2019 Novel Corona Virus(COVID-19) Iran: Research Square
9. COVID 19 Imaging findings Radiology Assistant. Retrieved on November 1,2020 from https://radio-logyassistant.nl/chest/covid-19/covid19-imaging-findings
10. BaiHX. HsiehB. and XiongZ. etal. Performance of radiologists in differentiating COVID-19 from viral pneumonia on chest CT. Radiology.2020;200823.
11. Simpson S. Kay FU. and Abbara S. et al. Radiological Society of North America Expert Consensus Statement on Reporting Chest CT Findings Related to COVID-19. Endorsed by theSociety of Thoracic Radiology, the American College of Radiology, and RSNA. Radiology Cardiothoracic Imaging. 2020;2(2):e200152.
12. Hu Y. and Zhan C. et al (2020) Chest CT findings related to mortality of patients with COVID-19 : A retrospective case series study China.

Original Articles

Outcome of Patients with Acute Myocardial Infarctionin A Tertiary Care Center

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KEY WORDS : acute myocardial infarction, risk factors, outcome

ABSTRACT

Background : Cardiovascular Diseases is a global health problem and an important cause of morbidity and mortality in thedeveloped as well as the developing countries. Acute myocardial infarction is a key component of the burden of cardiovascular diseases.A majority of patients with acute myocardial infarction have at least one identifiable risk factor.This study aimed to access the risk factors, clinical profile and the outcome of acute myocardial infarction.

Methods : This study included 50 patients admitted tocoronary care Unit of our tertiary care hospital with acute myocardialinfarction fulfilling the inclusion criteria. Detailed history was obtained from all patients. Patients were managed according to standard guidelines.

Results : Incidence of acute myocardial infarction was greater in male (70%) thanfemales (30%). HTN was mostprevalent co-morbidity (58%) followed by Diabetes Mellitus (40%).Smoking was most prevalentmodifiable risk factor (54%) followed by dyslipidemia (52%) and tobacco chewing (36%). All smokers were male. Anterior wall myocardial infarction was most commonpresentation(46%). Single vessel disease was most common abnormality (17%) on coronary angiography. Most common complications were heart failure (18%) and cardiogenic shock (18%). 5 patients (10%) were died due to various complications of acute myocardial infarction.

Conclusion : Smoking, dyslipidemia & tobaccoare commonmodifiable risk factors in acute myocardial infarction.Hypertension and Diabetes Mellitus arecommon non modifiable risk factors. Anterior wall myocardial infarction is most common presentation. Most patients have single vessel disease. Outcome is good in majority patients.

INTRODUCTION

Cardiovascular diseases are an important cause of morbidity and mortality in the developed as well as the developing world. By 2030, WHO predicts that 32.5%of the deaths occurring worldwide will be caused by cardiovascular diseases (CVD)1. In India alone, cardiovascular diseases account for 25% of the totaldeaths.More than 80% cardiovascular deaths were from middle and low income country in 2005.Researchersproject that CVD alone will be responsible for more deaths in low income countries than infectious diseases.2In our country the CVD risk factors among the rural as well as the urban poor andmiddle class are on the rise. The demon of cardiovascular diseases is very much at our doorstep. This is a frightening scenario considering that India is home to almost 17% of theworld's population.

Like many other non-communicable diseases, cardiovascular diseaseshave a long latency and have numerous modifiable risk factors.One of the important advances in cardiovascular research has been with regard tothe identification of risk factors associated with cardiovascular diseases. Based on theserisk factors treatment plans have been drawn and meticulously tested with the goal ofaltering the outcome.Numerous studies have been conducted to highlight the importance of risk factorsassociated with cardiovascular diseases. Acute myocardial infarction (AMI) is a key component of the burden of cardiovascular diseases. Majority of patients with acute myocardial infarction have at least one identifiable risk factor. This study highlights risk factors, clinical profile and outcomes of acutemyocardial infarction in a tertiary care hospital.

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MATERIALS AND METHODS

50 Patients admitted to our hospital with a diagnosis of acute MI fromyear 2017 to 2019 were studied regarding the risk factors, clinical presentation, complications and outcome within that admissionwho were full filling inclusion criteria. Patients of both sex, of any age having first time myocardial infaction (diagnosed by history, ECG & Enzymes), within 48 hours onset of chest pain, boththrombolysed or non thrombolysedwere included.Patients having chronic obstructive pulmonary disease, cor-pulmonale, valvular heart disease, congenital heart disease, previous myocardial infarction, complete heart block, arrythmias, cardiomyopathy, ECG evidence of LBBB, suspected pulmonary embolism or associated pericardial disease were excluded.Detailed history was obtained from all patients, including the presence of riskfactors like Diabetes Mellitus (DM), Hypertension (HTN), smoking, alcohol & tobacco Chewing, family history of ischemic heart disease (IHD).Baseline Investigation were done in all patient including complete blood count,blood sugar, renal function test, lipid profile, chest x-ray. Cardiac biomarkers, namelyhighly sensitive troponin I and CPK-MB were done in all patients. Patients were managed according to standard guidelines.

RESULTS

As shown in table 1, incidence of AMI is higher in the age group of 51-70 years and higher in male (70%) thanfemales (30%). In later age group incidence of AMI is increased gradually in females. Retrosternal chest pain lasting more than 30mins is dominant symptom in AMI (86%) followed by sweating (50%), palpitation (32%), dyspnea (28%), syncope (2%). As shown in table 2, HTN is mostprevalent co-morbidity (58%) present in our study. Smoking is most prevalent (54%)modifiable risk factor present in patients with AMI and all of them were male. Figure 1 describes that Out of 50 patients 25 (50%) had 2 or more risk factors.

Anterior wall MI (AWMI) is most common ECG presentation than any other types of AMI (46%). Inferior wall MI (IWMI) is second mostprevalent type AMI (22%) (table 3). Cardiac markers CPK was elevated in 90% and Troponin I was elevated in 96% patients. AWMI is most common cause for severe LV dysfunction found in echocardiography. In present study, out of 23patients presented with AWMI 5 patients had LVEF of <=30%, 8 patients had LVEF of 31-40%, 8 patients had LVEF of 41-50% and rest 2 had normal LVEF (>51%)(Table-4).

Out of 33patients undergone for coronary angiography (CAG), 17 patients (34%) had single vessel disease, 7 patients (14%)had double vessel disease and 4 patients (8%) had triple vessel disease. Rest 5 patients(10%) had normal coronaries.17 Patients didn't underwent for CAG because of reasons like altered renal function, hemodynamic unstability, elderly age & patient deference. Some of our Patients diedbefore progressed to coronary unit due to complications. Primary percutaneous coronary intervention (PCI) is treatmentof choice for AMI. In present study out of 50, 8 patients (16%) underwent primary PCI. 42 patients, who were unable to transfer to coronary unit at time presentation,treated with thrombolysis. Then out of 42, 14 patients (28%) underwent CAG & then PTCA. 2Patients (4%) gone for CABG. 5 patients with normal coronaries and 21 patients whorefused for per cutaneous intervention were managed medically (table 5).

Complications occurred in 50% patients in which heart failure (18%) and cardiogenic shock (18%) were commonest followed by tachyarrythmia (12%) and heart block (2%). 9 patients with heart failure was managed successfully without anymortality. Out of 9 patients whowere complicated by cardiogenic shock, 7 patients treated successfully &rest 2 patients died.Out of 6 patients who complicated by tachyarrythmia , 2 patient died and 4revived successfully.One Patient progress to Heart Block & could not revived. Among different types of AMI, AWMI is common cause for death. In present study,Out of 5 (10%) mortality, 3(6%) patients died of AWMI, 1(2%) died of LWMI and another 1(2%) due toIWMI+PWMI.

Table 1 : Age Distribution

AGE	MALE	FEMALE	TOTAL	%
<40	2	0	2	4%
41-50	6	0	6	12%
51-60	13	4	17	34%
61-70	11	5	16	32%
71-80	3	3	6	12%
>80	0	3	3	6%
TOTAL	35	15	50	100%

Table 2 : Prevlance Of Risk Factor In Patients With Mi

RISK FACTOR	NO OF PATIENTS	%
HTN	29	58%
DM	20	40%
SMOKING	27	54%
TOBACCO CHEWING	18	36%
ALCHOHOL	14	28%
FAMILY HISTORY	15	30%
DYSLIPIDEMIA	26	52%

Figure - 1 : Frequency of Risk Factors

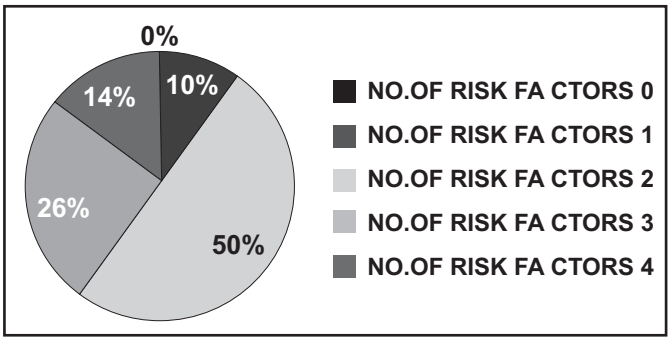

Table - 3 : Type of Presenting Mi

TYPE OF MI	NO OF PATIENTS	%
AWMI	23	46%
IWMI	11	22%
LWMI	3	6%
IWMI+RWMI	2	4%
IWMI+PWMI	1	2%
ANTERO-SEPTAL MI	4	8%
AWMI+LWMI	6	12%
TOTAL	50	

Table 5 : Treatment Modality Used For Mi

TREATMENT	NO OF PATIENTS	%
PRIMARY PCI	8	16%
THROMBOLYSIS & PTCA	14	28%
CABG	2	4%
MEDICAL MX ONLY	26	52%
TOTAL	50	

DISSCUSSION

In this study, incidence of acute MI was higher inage group of 51-70 year.In a study done by Harlan M. Krumholz et al3 on relationship of age with AMI, 34%patients under age of 65 years. In present study, 62% patients were below age of 65 years.MI was found to be more common in males as compared to females in younger age group.Incidence of AMI increases with age in females. This is because of protective effect of estrogenin young females.Balakumaran V et al4also shows higher incidence of AMI in males (66%). Alvaro Avezum MD5hasconcluded that MI is predominantly a disease of men, about 2/3rd of patients (67%) instudy were male. In our study also 70% of patients were male. Malik MJ et al6, has been concluded that 93% of patients presented withchest pain as chief complain. This also comparable to our study that about 86% of patients were presented with typical chest pain. In this study smoking, dyslipidemia and tobacco chewing are most common risk factors (54%, 52%, 36% respectively).Balakumaran V et al4 also concluded that smoking is commonest risk factor in AMI. In Patel G. N. Ravi et al7, majority ofadults with AMI had at least one identifiable risk factor and the risk factors noted were smoking (64.70%), sedentary lifestyle (23.52%), diabetes(52.94%), hypertension (34%), paternal history of cardiovascular disease (26.47%). This is similar in our

Table.4 : Echocardiography Findings in Diffeerent Mi

LVEF%	AWMI	IWMI	ANT SEPTAL MI	AWMI+LWMI	LWMI	IWMI+RWMI	IWMI+PWMI	TOTAL
<=30	5	0	0	4	0	0	1	10
31-40	8	2	4	2	0	1	0	17
41-50	8	6	0	0	3	0	1	18
>51	2	3	0	0	0	0	0	5
TOTAL	23	11	4	6	3	1	2	50

study where HTN, DM and family history were also risk factors (58%, 40%, 30% respectively). All patient had minimum one risk factor for AMI.

In a study Hiremath RG et al8, on correlation of ECG & CAG findings in AMI, AWMIwas the most common location (32%) of MI, this is also comparable to our study whereAWMI is most frequent location of MI on ECG (46%).In our study, CAG showed single vessel disease(34%) was the most common feature and LAD was most common infarctrelated artery. In Hiremath RG et al8, all patients had evidence of atherosclerotic disease, 58% of patientshad single vessel disease and LAD was the most common infarct related artery.In a study done by P H Stone et al9, 23 patients with anterior infarction had a substantially worse in-hospital and follow-up clinical course compared with those with inferior infarction, evidenced by a larger infarct size, lower admission left ventricular ejection fraction and higher incidence of heart failure & serious ventricular ectopic activity, in-hospital death and total cumulative cardiac mortality. Sathishkumar et al10 also showed high mortality in anterior wall MI. Similarly our study also AWMI was found to have higher incidence of severe lv dysfunction and complications likearrythmias, cardiogenicshock and death compare to other inferior or lateral wall MI.

In this study, complications in AMI are minimal with good outcome in majority. According to Morccetti Tet al11, survival after myocardial infarction (MI) is influenced by multiple factors, of which age stands out as a major non-modifiable predictor of long term prognosis. Young MI survivors have less severe coronary disease than older patients, which may explain their early favourable outcome. t is important not only to diagnose early and treat adequately AMI, it is alsoessential to identify and prevent or treat risk factors at primary and secondary level. Majority of patients in this study were diagnosed with Diabetes, Hypertension after an attack of MI. Hence it is important to diagnose and treat these conditions at an early stage before they can lead to such devastating complications. Patients with family history should especially be screened for risk factors. There is a need to increase awareness among the population regarding the entity of MI in Adults hence stressing on modifying life style in terms of healthy diet, exercise, avoiding smoking and screening for risk factors in those at high risk. This simple measurecan make a large difference in preventing the occurrence of MI.

CONCLUSION

Smoking, dyslipidemia & tobacco are commonmodifiable risk factors in acute myocardial infarction.Hypertension and Diabetes Mellitus arecommon non modifiable risk factors. Anterior wall MI is most common presentation on acute myocardial infarction. Most patients of acute myocardial infarction have single vessel disease. Outcome is good in majority patients.

REFERENCES

1. https://www.who.int, cvd atlas, The Future of CVD
2. WHO. World health statastics 2009. Geneva: World Health Organization; 2009e
3. Harlan M. krumholz MD,Friesinger MD, E. Francis CookScd, Thomas H. lee MD,Gregory W.Roun MD, Lee Goldman MD: Journal of the American Geriatrics Society/Volume 42, Issue 2, p.127-131.
4. Balakumaran V et al: analysis of complications of acute coronary syndrome and related outcomes in india. International journal of clinical cardiology: volume 7:194, August 2020
5. Alvaro Avezum MD: Impact of age on management and outcome of acute coronary syndrome: Observation from the GRACE; American Heart Journal, Vol.149 (1), Jan 2005.
6. Malik MJ, Khan SA, Safdar S, Taseer IH: Chest pain as presenting complain in patients with AMI; Pak J Med sci 2013;29(2);565-568.
7. Patel G. N. Ravi, KhandeparkarViraj, KothaSindhoora, CacodacarJagdish: Clinical profile of acute myocardial infarction in young adults; Journal of Evaluation of Medialcal& Dental Science;2015; Vol. 4, Issue 62.
8. Hiremath RG, Kabade DM, Malkiwodeyar PK, et al.: A study of correlation between ECG findings and coronary angiogram in patients of acute coronary syndrome; J. Evi.Based Med. Healthc.2018; 5(51)3514-3519.
9. P H Stone et al,: Prognostic significance of location of MI; American J of Cardiology. 78,(1), 19-25,1996
10. Sathishkumar etal:Anterior wall myocardial infarction with conduction defect and its outcome during hospital stay;Indian Journal of Applied Research. January 2019: Volume 9; Issue 1.
11. Morccetti et al.: Survival after acute MI in young, Archives of internal medicine 157(8):865-9, 1997.

CASE REPORT

MYIASIS with Methicillin Resistant Staph Aureus - Complication of a Neglected Wound

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KEY WORDS : Neglected wound , Maggots , MRSA (Methicillin Resistant Staph Aureus)

ABSTRACT

Myiasis is an infestation of the tissues and organs of living vertebrates by fly larva that feed on the host`s necrotic or living tissue, it is a very well recognized complication of neglected wounds. People with neglected open wounds, poor hygiene, rural territories and close proximity with cattles are at risk of Myiasis. Here I report a case of 18 years young male who had history of injury one month back, contused lacerated wound was sutured at primary health centre, was given proper antibiotics coverage also. After stitches removal and partial healing, patient neglected wound care and presented to me with maggots during first consultation. Diagnosed with MRSA infection, cured with surgery ,culture sensitive antibiotics and regular wound care till complete healing status. He was saved from dreaded complications as osteomyelitis, gangrene and systemic sepsis through prompt diagnosis and treatment.

INTRODUCTION

Myiasis is rare nowadays in the advent of patient awareness, education status, better wound care with advance health care facilities. Still neglected wound care pose a big threat of maggots infestation and secondary consequences over a period of time. I am presenting a case of Myiasis in young chap with secondary MRSA infection, managed with prompt surgical debridement and excellent wound care post operatively which helped him to return to work within short period of time without further complications.

CASE REPORT

An 18-year-old male patient from Rakhiyal village presented to a surgical outpatient department for delayed wound healing of his left ankle region. He had history of fall from vehicle before one month, suturing was carried out at Primary Health Centre with proper antibiotics coverage for a period of 3 weeks. After the stiches removal, he neglected wound care due to false belief of complete healing. He is a non smokerfarmer and involved in farming work requiring close proximity of cattles and house flies. He approached regional doctor for dressing at irregular intervals and analgesic for pain relief. It was severe pain with inability to sleep for last 3 days which made him compel to consult a specialist. I examined him for the first time on 10thFebruary, 2020. His systemic examination with vital parameters was normal. The wound involving left lateral malleolus area was showing live maggots popping out, edges of wound were hyperemic and swollen with ulcer bed showing unhealthygranulation tissue without any pus discharge. (fig.1) Left foot peripheral pulsations of Dorsalispedis and Posterior tibial arteries were normal. I immediately removed visible maggots and advised for necessary work up with laboratory tests and an x-ray of the left foot with ankle to rule out osteomyelitis. His haemoglobin was 13.9 g/dL, Peripheral smear showing 81% Neutrophils and 14% Lymphocytes, Random blood sugar was 97 mg/dL.X-ray of left foot with ankle showed no bony lesions. His relatives were counselled for debridement of wound with necessary care to save the limb from further complications.

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Patient was admitted very next day for surgery and operated under General Anesthesia, during which Debridement of unhealthy granulation tissue, removal of 19 maggots (1-2 cm size) was done. (fig.2) In addition, intra operative topical administration of Hydrogen peroxide and 0.05% Chlorhexidine acetate was carried out; Turpentine oil also used as proven larvicidal drug immobilizing larvae and assisting Maggots removal. Sterile saline dressing applied. A culture swab was also taken for microbiology report of sensitivity to reveal underlying bacterial invasion which showed MRSA (Methicillin Resistant Staph Aureus) infection, sensitive to very few antibiotics only. Maggots were not sent forlab studies due to financial constrains on patient side. Intravenous antibiotic coverage with Amoxicillin combined Clavulanicacid was given during hospital stay of one day and he was discharged with oral antibiotics of same group for further 2 days. Proper counselling was carried out regarding hygiene care strictly to be followed. After culture report he was given oral Linezolid (600 mg) for 1 week, Capsule Doxycycline (100 mg) for 2 weeks period. He was on regular outdoor patient department follow up for wound care, sterile dressing with normal saline and Mupurocin ointment (as per the culture sensitivity report) for a period of 5 weeks. No Maggots or larvae were observed during any follow up dressings. Wound healed completely without reoccurrenceor complications.

DISCUSSION

Myiasis can be classified according to the areas involved as cutaneous and subcutaneous (wound) andcavitary (nasopharyngeal, tracheostomy, intestinal, umbilical cord, urogenital, cerebral etc) Of them cutaneous form is the most frequently seen in the clinical form of the disease. Myiasis appears more often in subtropical countries, rural regions where people are more likely to have poor hygiene and close contact with domestic animals. Diabetes, neglected wounds with foul smelling discharge attract maggots . Alcoholism, drug addiction and warm climates are additional risk factors. Delayed diagnosis and continuation of ineffective and unnecessary antibiotic treatment (as in this case ample number of antibiotics were resistant to MRSA infection) can lead to further risk of tissue destruction, which could result in osteomyelitis, amputation of affected area or even systemic sepsis condition.

CONCLUSION

People with neglected open wounds and poor hygiene, especially in warmer climates, are at risk of Myiasis. Clinicians should be suspicious of nonhealing wound lesions despite the appropriate antibiotic treatment. Early diagnosis and prompt treatment with thorough surgical debridement of unhealthy or necrotic tissues, larvae removal and microbiological culture of the wound (even in absence of visible pus discharge) is crucial to stop tissue destruction and save the affected area with improvement in quality of life.

REFERENCES

1. Ronald A. Sherman. Wound Myiasis in Urban and Suburban United States : Arch Intern Medicine 2000; 160:2004-2014
2. G Predy, M Angus, L Honish, CE Burnett, Andrew Stagg. Myiasis in an urban setting: A case report. Can J Infectious Diseases 2004 ; 15(1):51-52
3. SaggerMawri, Peter Y. Watson, Raymond L, Fowkers Jr. Worked to the Bone : A Severe Unusual case of Wound Myiasis. SHM Abstracts Hospital Medicine 2016, March 6-9, San Diego, California
4. Hugh Muse, Rachel L. Jenkins, Meredith B. Oliver, Soomin Kim, Richard L. Grantier III, Bharat K. Malhotra, Jason J. Parham, Kayla R. Stover. A case of IgnatzschineriaindicaBacteremia following Maggot Colonization :Hindawi Case reports in Infectious Diseases 2017, Article ID doi.org/10.1155/2017/3698124
5. Fabio Francesconi, Omar Lubi. Myiasis : Clinical Microbiology Reviews 2012 , p. 79-105
6. Cecile Le Brun, Martin Gombert, Sylvie Robert, Emmanuelle Mercier, Philippe Lanotte. Association of Necrotizing Wounds Colonized by Maggots with Ignatzschineria – Associated Septicemia : Emerging Infectious Diseases, volume 21, No. 10, October 2015
7. Lt Col Timothy, A. McGraw, George W. Turiansky. Cutaneous Myiasis : Journal of American Academics Dermatology 2008 ; 58:907-26

CASE REPORT

Meibomian Gland Carcinoma Masquerading as Giant Chalazion

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KEY WORDS : Giant Chalazion, Meibomian Gland Carcinoma (MGC)

ABSTRACT

A 50-year-old male presented to us with mass on left eye upper lid for 6 months. It was slowly growing and painless. There was no history of trauma, any mass elsewhere in the body or any previous operative intervention. It was diagnosed as a giant chalazion and operated as usual ; incision drainage and curettage . After 3 months post operative,there was a tumor mass at the same place of the same lid.Clinical diagnosis this time was meibomian gland carcinoma. It was excised as a malignancy and reconstruction was done. Hitoplathologyexamination with H&D stain confirmed the clinical diagnosis.

INTRODUCTION

Chalazion is a chronic granulomatous inflammation occurring commonly and presenting in lids as nodular swelling. It is a smooth hard swelling with normal overlying skin and intact cilia In elderly population. Meibomian gland carcinoma (MGC) or eyelid sebaceous gland carcinoma (SGC) is mistaken as chalazion. MGC is a hard tumor with irregular surface. Overlying lid skin and margin shows vascularization and cilia in that are absent. On incision there is gritty hard feeling and there hardly any granulation and cheesy material which is quite common in chalazion. MCG is a highly malignant tumor with high tendency of spread along the periocular lymphatics. So any misdiagnosis and delay in treatment can be dangerous.]. It is commoner in females.

In over 50% of cases SGC presents as pseudochalazion or chronic Blepharo - conjunctivitis.[4] Meibomian gland carcinoma differs from other eyelid tumors in having a multi-focal origin as sebaceous glands are present along with the length of tarsal plate as well as caruncle. Unlike the radial spread of BCC and SCC, SGC spreads in superficial plane referred to as Pagetoid pattern.[5]

CASE REPORT

A 56-year-old male patient presented with chief complain of painless progressive swelling on the left upper eyelid for 6 months [Fig 1].Systemic examination revealed no significant finding. The uncorrected visual acuity was 6/12 in the affected after lifting up the lid. Pain and tenderness were absent. Prominent cutaneous blood vessels were seen on the regular smooth surface of the mass. Trans-illumination test was positive suggestive of cystic lesion [(Fig 2] Lid margin showed presence of cilia. Complete mechanical ptosis was present due to the large mass. Our diagnosis was a giant chalazion. Standard chalazion surgery was performed from the conjunctival side and gush of fluid (around 5 cc) came out. It was followed by cheesy material which was scooped out from it confirming our diagnosis of a giant chalazion. The swelling totally collapsed and there was no palpable mass

Fig.1 : Lesion on Distant Examination

Fig.2 : Positive Trams-illumination

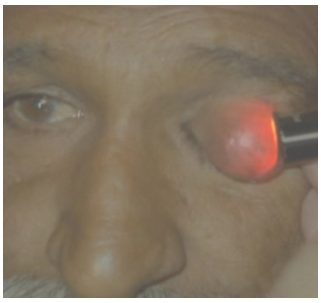
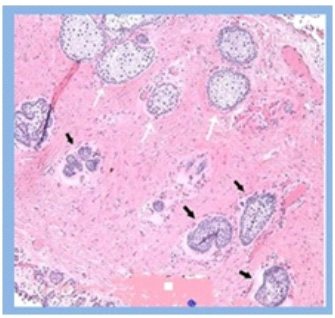


Fig.3 : Recurrent Lesion at the same site

Fig.4 : Histo pathological picture of the lesion



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left behind. Post-operative treatment consisted of local antibiotics and steroids and systemic anti-inflammatories and antibiotics.

The patient presented to us after 3 months again with a mass on the same location as the previous one. It had an irregular surface and a hard consistency suggesting it to be malignant ([Fig 3,4]. Trans-illumination test was negative. Cilia were absent and surface vessels were present. Pre-auricular lymph nodes were not enlarged and the systemic examination was normal. Keeping in mind the current presentation, excision of the mass with 4mm of clear margins was performed and lid reconstruction was done by Cutler Beard procedure. Mass was sent for histo-pathological examination. It showed the cells in irregular lobular masses with distinctive invasiveness (fig 5). The cytoplasm was pale, foamy and vacuolated .Nuclei were hyperchromic[3-4].

DISCUSSION

Chalazion is a common condition affecting a wide range of population as typical slow growing painless tumor of eyelids. Surface is smooth and regular with presence of normal cilia. Variable amount of ptosis is present depending upon its size. As against the occurance of chalazia in younger age MGC has peak occurrence is in elderly patients (50 to 70 years of age) although, youngest patient recorded was 3.5 years old.[2] Meibomian gland carcinoma is commoner in Asian population than BCC according different studies to different studies.[1-3]

But some meibomian gland carcinomas are notorious enough to masquerade as a benign condition and delays the prompt excision resulting in metastasis.[5] Any unusual or recurrent case of proposed chalazion should be sent for histopathological examination even if the clinical picture suggests a benign etiology. In our case, the initial presentation showed presence of cilia and a regular surface which suggested a benign etiology. Meibomian gland carcinoma has a tendency to metastasize to peri-ocular lymph nodes. As the first and second case scenarios were different, we might assume that it was a giant chalazion in the first place but chances are always there suggestion the former to be a rare presentation of meibomian gland carcinoma.

CONCLUSION

This case study is to present a unique clinical picture of meibomian gland carcinoma which to our knowledge has presenting as a giant cyst has not been mentioned in literature. Cyst formation along with the malignant etiology is thought to be due to obstruction of the serous glands. Initially the tumor mass itself was very small making it rather impossible for us to diagnose it as a malignancy. Though cilia were not affected and had a regular surface, it turned out to be malignant. So we can say tumor extends beyond what is clinically evident Normally this presentation is not suggestive of malignancy and the further histopathology study is not routinely advocated but it is wise to send each and every uncanny appearing “chalazia” for histo-pathological examination to avoid undesirable outcomes like recurrence or malignancy and eventual metastasis.

REFERENCES

1. Sihota R, TandonK, BethariaSM, Arora R. Malignant eye lid tumors in an Indian population Arch. Ophthalmol1996;114:108-109.
3. Shields JA, DemirciH, Marr BP, EagleRC, Jr, ShieldsCL.Sebaceous carcinoma of the ocular region A review. SurvyOphthalmol 2005;50103-22.
4. Ni C, Kou PK. Meibomian gland carcinoma: A clinico-pathological study of 156 cases with long-period follow up of 100 cases. Jpn J Ophthalmol. 1979;23:388–401.
5. Honaver S. Editorial- Sebaceous gland carcinoma: Can we do better ? Indian J Ophthalmol 2018;66(9) 1235-1237.

CASE REPORT

A Rare Case of Anaplastic Astrocytoma of Corpus Callosum with Intraventricular Extension

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Keywords : High Grade Astrocytoma,Corpus Callosum Glioma, Intraventricular Tumour

ABSTRACT

Introduction:- Though gliomas are the most frequent primary neoplasm in brain, only 3.8% infiltrate white matter structures like corpus callosum. Corpus callosum involvement based on preoperative imaging is an unfavorable prognostic factor for survival among the subgroup of young, good-performance-status patients with high-grade astrocytoma.

Methodology:- 28 year lady was brought with history of left sided weakness and headache since 1 month and history of convulsion 1 day back. Mri brain with contrast showed ill defined, cystic lesion arising from body of corpus callosum of size 70*62*54 mm. Patient was operated for right frontal craniotomy and excision of corpus callosal lesion with intraventricular extension and histopathology was anaplastic astrocytoma (who grade 3). Post operatively patient headache and improved power.

Conclusion:- Gliomas of corpus callosum have aggressive behaviour, surgical complications and recurrence. If treated properly these patients can have better postoperative outcome and prolonged survival.

INTRODUCTION

Gliomas are the most frequent primary neoplasm in the central nervous system. Of these only 3.8% infiltrate white matter structures corresponding to the corpus callosum. Corpus callosum involvement based on preoperative imaging is an unfavorable prognostic factor for survival among the subgroup of young, good-performance-status patients with high-grade astrocytoma. Natural evolution of corpus callosum gliomas determines a progressive neurological deterioration in a short period of time leaving a severely neurological affection, and a death afterwards in short time. Aggressive therapy prolongs the survival for this patient with a high risk of neurological deficit.

High grade gliomas most commonly spreads via direct extension along white matter tracts, including the corpus callosum; hematogenous, sub ependymal, and cerebrospinal fluid spread also occurs. As in the present case, because the corpus callosum is relatively resistant to infiltration, high grade glioma should be considered whenever any lesion crossing the corpus callosum is encountered.

The risk of neurological deficit leads, in many cases, to take a conservative behavior such as stereotactic biopsy with chemo radiotherapy. In the last years advances in microsurgical techniques has bring a new perspective on aggressive treatment in particular cases. Poor prognosis and general neurological affection is still the main problem. In this presentation we demonstrated our experience of managing a case of anaplastic astrocytoma involving corpus callosum with intraventricular extension successfully without any postoperative complications.

CASE REPORT

28 Year Lady Was Brought To OPD with H/o Left Sided Weakness Since 1 Month Headache Since One Month In Frontal Region Abnormal Purposeless Body Movement Followed By Unconsciousness For 15 Minutes/ 2 Days Back (s/o) GtCS

2 Episodes Of Vomiting 1 Day Back.

She Had History Of Convulsions 2 Years Back And Diagnosed As A Case Of Corpus Callosal Sol At That Time. She Was Started Anticonvulsants (levera And Valproate) And Adviced Surgery, But Patient Was Not Ready For Surgery Due To Economic Reasons.

On Clinical Examiation: She Was Conscious, Oriented, Obeying Command And Vitally Stable.

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On Neurological Examination:

Higher Functions Were Normal

Cranial Nerves Were Normal.

Vision, Light Reaction, Eye Movements Were Normal.

Left Sided Hemiparesis Present With Power 3 In Both Upper And Lpwer Limbs.

Left Sided Hypertonia And Hyperreflexia Present.

Sensory Examination Was Normal And Cerebellar Examination Was Unremarkable.

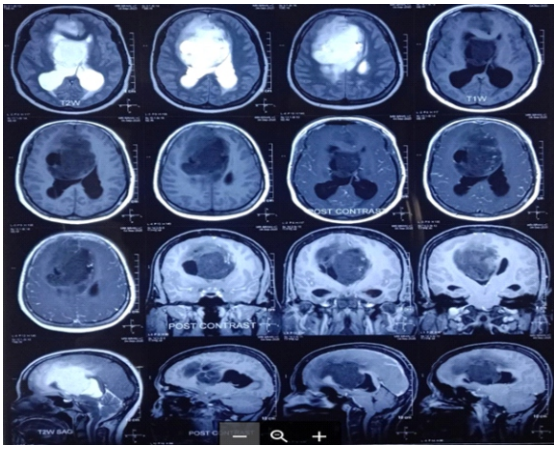
Mri Brain With Contrast Was Done S/o Ill Defined, Cystic Lesion Is Seen Arising From Body Of Corpus Callosum Of Size Apprx 70*62*54 Mm.

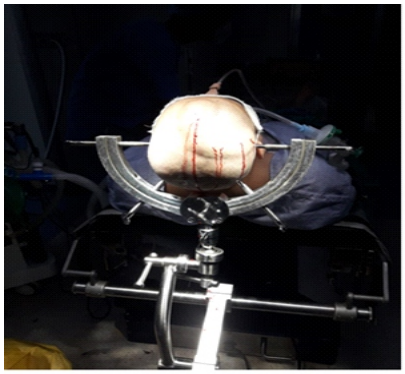
Lesion Was Heterogenously Hyperintense On T2w, Hypointense On T1w And Flair, And Showing Mass Effect In The Form Of Subfalcine Herniation With 22mm Midline Shift To Left And Compression Over Midbrain And Pons.

Superiorly Extending Into Right Frontal Lobe With Perilesional Edema. Inferiorly Lesion Bulging And Extending To Frontal Horn And Body Right Lateral Ventricle With Obliteration Of Foramen Of Monro And Third Ventricle.

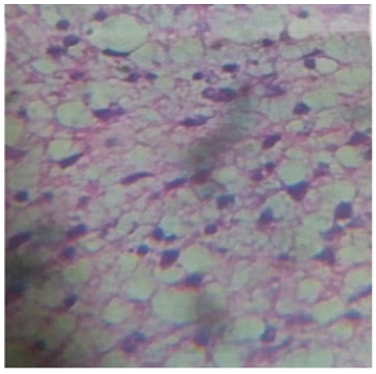
PRE OPERATIVE MRI

- After All Necessary Pre Operative Work Up Surgery Was Planned.
- Patient Was Operated For Right Frontal Craniotomy And Excision Of Corpus Callosal Sol With Intraventricular Extension Under Ga. Procedure Was Uneventful.
- Hpr Came Out To Anaplastic Astrocytoma (who Grade 3).
- Post Operative Patient Improved. She Relieved Headache And Improved Power From 3 To 4+. There Was No Evidence Of Dissociation Syndrome,



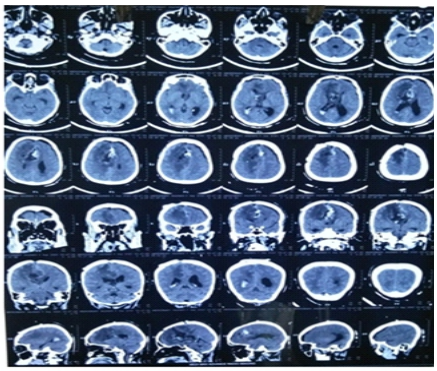


INTRAOPERATIVE PHOTOGRAPH



HISTOPATHOLOGY

POST OPERATIVE PHOTOGRAPH



POSTOPERATIVE CT SCAN

Memory Impairment Due To Fornix Injury, Hypothalamic Dysfunction Or Hydrocephalus Postoperatively.

- There Is Plan To Give Chemotherapy And Radiotherapy In This Patient.

DISCUSSION

- M g Yasargil published a series of cases evaluating corpus callosum lesions, encountering that the most frequent type of lesion correspond to high grade of gliomas. Gliomas are the most common type of malignant primary brain tumor, yet they currently have no effective treatment. Involvement of corpus callosum is not an uncommon phenomenon, because the high grade gliomas can infiltrate the other hemisphere via the connecting fibers, finally developing into a butterfly glioma. Convulsions, neurological deficit, disconnection syndrome are the clinical presentions in these tumors.
- In our case patient was 28 year female patient presented with convulsions and hemiparesis(power 3 in upper and lower limbs). Patients memory and intelligence was normal.
- Despite aggressive first-line therapy, consisting of surgery, radiation therapy, and adjuvant chemotherapy, high grade glioma in this region have traditionally poor prognosis due to postoperative complications like bleeding, infection, postop convulsions, disconnection syndrome and there is chance of recurrence. But in our case, patient has been recovered well after surgery without any surgical complications.

CONCLUSION

Though gliomas are the commonest intracranial malignant tumors, anaplastic astrocytoma involving corpus callosum is considered poor prognostic indicator due to aggressive behaviour, surgical complications and recurrence. If treated properly these patients can have better postoperative outcome and prolonged survival.

REFERENCES

1. Steltzer KJ, Sauvé KI, Spence AM, Griffin TW, Berger MS. Corpus callosum involvement as a prognostic factor for patients with high-grade astrocytoma. Int J Radiat Oncol Biol Phys. 1997;38(1):27-30.
2. Winn H (2016) Youmans & Winn Neurological Surgery Seventh Edition.
3. Michael Opoku-Darko M, Joseph E. Amuah JE, Kelly JJP (2018) Surgical Resection of Anterior and Posterior Butterfly Glioblastoma. World Neurosurg 110: e612-e620
4. Dayani F, Young JS, Bonte A, Chang EF, Theodosopoulos P, et al. (2018) Safety and outcomes of resection of butterfly glioblastoma. Neurosurg Focus 44: E4.
5. Burks JD, Bonney PA, Conner AK, Glenn CA, Briggs RG, et al. (2017) A method for safely resecting anterior butterfly gliomas: the surgical anatomy of the default mode network and the relevance of its preservation. J Neurosurg 126: 1795-1811.
6. Yaşargil, Microneurosurgery-Vol. IV B, Microsurgery of CNS Tumors Instrumentation and Equipment, Laboratory Training, Surgical Approaches, Strategies, Tactics and Techniques, Surgery and Results of Extrinsic and Intrinsic Tumors, Interventional Neuroradiology, Neuroanesthesia, Complications (ISBN 3-13-116501-4).

CASE REPORT

A Case Report on Calcinosis Cutis

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Keywords : Calcinosis cutis; Serum Phosphate

ABSTRACT

A 55-year old female presented with Swelling over right upper buttock region. Investigation was suggestive of Calcification on imaging as well as FNAC(fine needle aspiration cytology). Excision was done under local anaesthesia. Calcinosis Cutis may be caused by trauma, inflammation, varicose veins, tumors, infections, connective tissue disease, hyperphosphatemia, and hypercalcemia. Calcinosis cutis commonly occurs in patients with systemic sclerosis. It was first described by Virchow in 1855.[1] It is said to be due to friction causing degeneration of skin and immediate deeper structure with increased local alkalinity of the tissue causes precipitation of the calcium leading to solid, hard, swelling in the skin. Cut section shows hard, yellowish material.[2]

INTRODUCTION

Calcinosis cutis is defined as a condition in which hydroxyapatite crystals of calcium phosphate deposited in the skin and subcutaneous tissue. It is classified into five main types: dystrophic, metastatic, idiopathic, iatrogenic, and calciphylaxis. Dystrophic calcification is the most common cause of calcinosis cutis and is associated with normal laboratory values of calcium and phosphorus. There is an underlying disease, systemic sclerosis, dermatomyositis, mixed connective tissue disease, or lupus, that induces tissue damage and creates a nidus for calcification. Metastatic calcification has abnormal serum levels of calcium and phosphorus with deposition occurring after calcium phosphate product exceeds 70mg/dl. Idiopathic calcification has no underlying tissue damage or abnormal laboratory values. It includes tumoral calcinosis, subepidermal calcified nodules, and scrotal calcinosis. Iatrogenic calcification is caused by administration of calcium or phosphate containing agent and inducing precipitation of calcium salts. Calciphylaxis involves calcification of small and medium-sized vessels and is associated with chronic renal failure and dialysis. The disorder is classified as calcinosis circumscripta if it is limited to an extremity or joint. Calcinosis universalis occurs when there is diffuse involvement of subcutaneous and fibrous structures of muscles and tendons.[3]

MATERIALS & METHODOLOGY

A 55 year-old female Patient presented with swelling over right upper outer buttock since 3 years. Clinically, there was no evidence of any inherited or connective tissue disorder. On examination,Single Swelling was situated 2 Cms posterior to Right Anterior superior Iliac Spine on upper outer quadrant of right gluteal region, spherical, 6 Cms by 5 Cms, lobular surface, indistinct edge, without impulse on coughing or any change in overlying skin, without any dilated veins over it. It was dull on Percussion.

Inorganic Phosphorous (PO4) level was 15.6 mg/dl (normal range 2.7 -4.5 mg/dl). Parathyroid hormone level was 2.82 pg/ml (normal range 15-68 pg/ml). Serum. Calcium level 9.2 mg/dl (normal range 8.4-11 mg/dl). Chest X-ray & Dorso-lumbar & Lumbo-Sacral Spine were normal. Pelvic Both Hip X-ray showed a Right Calcified mass separate from Right Hip bone. FNAC was suggestive of extensive Calcification, few degenerated Squamous epithelial cells, mixed inflammatory infiltrate, Scant cellularity over fluidish background. With Written and informed Consent, in left lateral position, approximately 5 Cms skin incision along the langers lines was made, excision was done.

Post-operatively, Patient was discharged on second day. There was no post-operative Surgical Site Infection. Skin stitches were removed on 7th Day. Inorganic Phosphorous (PO4) level was 5.1 mg/dl (normal range 2.7 - 4.5 mg/dl). Parathyroid hormone level was 23.95 pg/ml (normal range 15-68 pg/ml). Serum Calcium level 8.5 mg/dl (normal range 8.4-11 mg/dl). Post-operatively , phosphate level returned to normal range with good cosmesis.

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Figure 1 : Single multi-lobulated Swelling over & Intra-operative view Right Upper outer buttock

Figure 2 : Pelvic Both Hip-X ray showing Calcified lesion & post-operative site

DISCUSSION

Treatment for calcinosis cutis can be challenging. Effort must be made to identify the cause and blood levels of Calcium, parathyroid hormone, phosphate levels should be focussed. The treatment for small calcified deposits and large localized lesions is surgical excision which is curative and also allows histopathological examination that is required for confirmation of the diagnosis, whereas systemic therapy is required for disseminated and extended calcinosis. The disorder is classified as calcinosis circumscripta if it is limited to an extremity or joint.[4] Various reported treatment modalities with beneficial effects include warfarin, bisphosphonates, minocycline, ceftriaxone, diltiazem, aluminium hydroxide, probenecid, intralesional corticosteroids, intravenous immunoglobulins, curettage, surgical excision, carbon dioxide laser, and extracorporeal shock wave lithotripsy.[5]

REFERENCES

1. Valdatta L, Buoro M, Thione A, Mortarino C, Tuinder S, et al. (2003) Idiopathic circumscripta calcinosis cutis of the knee. Dermatol Surg 29: 1222-1224.
2. Sriram Bhatts Manual of Surgery,Third edition, pg no:74
3. Jiménez-Gallo D, Ossorio-García L, Linares-Barrios M. Calcinosis Cutis and Calciphylaxis. Actas Dermosifiliogr. 2015 Dec;106(10):785-94
4. Treasure Island (FL): StatPearls ; 2018 Jan., Cuong Le; Paul M. Bedocs, Palisades Medical Center, Ohio University
5. Reiter N, El-Shabrawi L, Leinweber B, Berghold A, Aberer E (2011) Calcinosis cutis: Part II. Treatment options. Journal of American Academy of Dermatology 65: 15-22

CASE REPORT

Cesarean Scar Ectopic Pregnancy

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Keywords : Cesarean scar ectopic, Obstetrics, Ectopic pregnancy

ABSTRACT

Cesarean scar ectopic pregnancies are a rare form of extrauterine pregnancies, but with the increasing rates of cesarean sections the incidence of cesarean scar ectopic pregnancies is increasing. Similar to other ectopic pregnancies, cesarean scar ectopic pregnancies pose a great risk for maternal hemorrhage and ultimately maternal mortality. This study presents the case of a cesarean scar ectopic pregnancy in a patient with 2 prior cesarean deliveries. Here, we highlight the importance of early diagnosis and treatment of cesarean scar ectopic pregnancies.

INTRODUCTION

An ectopic pregnancy is a pregnancy that occurs outside of the uterine cavity.[2,8] Ectopic pregnancies occur in approximately 1-2% of all the pregnancies in India. While the presentation of ectopic pregnancy can be variable, its most common sign is vaginal bleeding in early pregnancy.[13]

Further, ectopic pregnancy accounts for 6% of all pregnancy-related deaths and is the highest contributor to hemorrhage-related deaths.[2,5] Risk factors for an ectopic pregnancy include a prior extrauterine pregnancy, use of assisted reproductive technology, history of tubal ligation, increased maternal age, intrauterine contraceptive devices, and active sexually transmitted infection.[4,8] Despite these known risk factors, however, many women may present without any of these characteristics.[2]

The most common location for an ectopic pregnancy is in the ampulla of the fallopian tube.[2,8] However, an ectopic pregnancy can also occur in locations like the interstitium, cervix, ovaries, and abdomen.[8] Cesarean scar pregnancies are rare, occurring in approximately 1 in 2000 pregnancies, although the incidence is increasing.[8,6] The increasing rate of cesarean scar ectopic pregnancies mirrors the increasing rate of cesarean delivery. The risk for a cesarean scar ectopic does not necessarily increase with the number of cesarean deliveries. Disruption of the endometrium and myometrium after cesarean delivery predisposes to improper implantation at the site of the prior hysterotomy. Without normal surrounding myometrium, untreated cesarean scar ectopic pregnancies can result in uterine rupture with severe maternal hemorrhage and death.

CASE REPORT

A 30-year-old woman (G4P2A1L2) presented from an outside facility with vaginal bleeding and discharge. The patient had opted for medical termination of pregnancy without consulting a doctor and without ultrasonography, and then presented with complain of continuous bleeding to outside facility where an attempt was made for dilatation and evacuation but there was excessive bleeding so the patient was referred to our institute. The patient had a history of 2 cesarean deliveries in the past due to fetal distress in her first pregnancy and non progression of labor in subsequent cesarean deliveries. Her most recent pregnancy was 5 years prior to presentation. She had no other significant medical history, had regular menses, and had no history of sexually transmitted infections. Three weeks prior to presentation, a transvaginal ultrasound at an outside obstetrics appointment suggested an intrauterine pregnancy at 7 weeks and 0 days with findings suggestive of blighted ovum.

At presentation, her vitals were within normal limits and stable. Physical exam was only notable for spotting per vaginum and closed cervix on speculum evaluation. The patient's hemoglobin was low and hematocrit was within normal limits, and her white blood cell count was normal. At the facility, she had a transvaginal ultrasound that showed a 65 x 60 mm sized heterogeneously echotextured lesion without internal vascularity in the lower uterine segment suggestive possibility of clot or retained products of conception at the level of previous scar. Transvaginal ultrasound did not reveal free fluid in the pelvis.

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After discussion with the patient regarding her imaging findings, potential possibility of cesarean scar pregnancy, the possibility of obstetric hysterectomy, the patient was taken for dilatation and evacuation and SOS for laparotomy under general anesthesia with full preparation of obstetrics hysterectomy . Per operatively during the D & E procedure placental tissues being adherent to the scar was felt and sudden excessive gush of blood was seen suggestive of cesarean scar ectopic pregnancy. She underwent an uncomplicated obstetric hysterectomy. Per operatively fundus and upper part of the uterus was normal and there was bulge with vascularity over scar. Bladder was dissected out anteriorly. As a per operative finding left sided hydrosalpinx was noted. Right tube and ovaries were normal.3 pints PCV were given. Post operative events were uneventful Histopsthology report of the specimen showed invasion of myometrium by normal placental villi and trophoblastic cells along with vascular wall hyalinization and fibrin deposition in stroma with areas of hemorrhage and necrosis. She was discharged postoperative day 7 after suture removal.

DISCUSSION

Here, we present the case of a patient with 2 prior cesarean deliveries who presented with a cesarean scar ectopic pregnancy. She was diagnosed via transvaginal ultrasound and per operatively, and she underwent surgical management.

It is important to have a high clinical suspicion for a cesarean scar ectopic in a patient who presents with first trimester bleeding and multiple previous cesarean deliveries. Although the incidence of cesarean scar ectopic pregnancy is uncommon, its incidence is indeed increasing given the rise of cesarean deliveries [8, 6]. These pregnancies are life-threatening as they pose a great risk for maternal hemorrhage. Thus, it is important to identify and treat cesarean scar ectopic pregnancies to avoid significant morbidity and mortality (Figs 1, Figs. 2, Fig. 3).

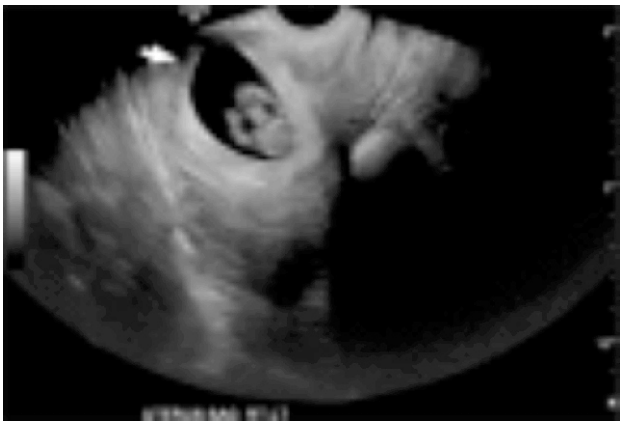

Fig. 1

Sagittal transvaginal ultrasound showing an ectopic cesarean scar pregnancy (EGA 7 weeks, 0 days). The arrow indicates thinning of the anterior aspect of the myometrium.

Criteria for the diagnosis of scar ectopic pregnancy are:(1) an empty uterine cavity and cervical canal, (2) a gestational sac located at the anterior wall of the isthmic portion , separated from endometrial cavity or fallopian tube in previous cesarean scar, (3) a gestational sac embedded within the myometrium and the fibrous tissue of cesarean scar at the lower uterine segment with an absence of defect in the myometrium between the bladder and the sac and (4) a high velocity low impedance vascular flow surrounds the gestational sac.[11,12]

Upon implantation on the uterine scar, cesarean scar ectopics can either extend into the cervico-isthmic space and into the uterine cavity or extend deeper into the myometrium toward to serosal surface of the uterus. Both forms can result in substantial hemorrhage, although the latter also precludes a viable pregnancy. Implantation of the placenta into the scar and myometrial thickness < 4 mm in the first trimester all resulted in cesarean hysterectomy for morbidly adherent placenta, with lower birth weight and earlier gestational age at delivery among those with implantation into the prior scar. An MRI may provide additional confirmation of the ultrasound findings and characterize the myometrial interface if the pregnancy is difficult to distinguish from other pregnancy complications such as a cervical ectopic pregnancy or consideration for expectant management of pregnancy is considered (Fig.4, Fig.5, Fig.6)

Fig. 2

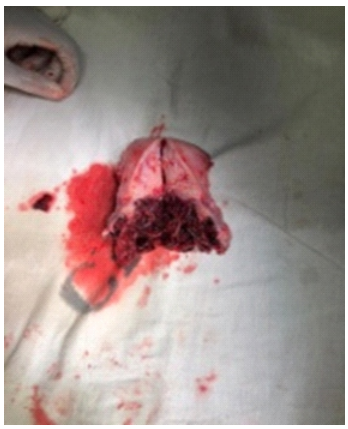

Fig. 3

Intraoperative image of uterus, round ligament and fallopian tube. The cesarean scar ectopic is noted deforming the left lower anterior wall of the uterus with increased vascularity (***).

Specimen following abdominal hysterectomy. Products of conception is noted to the lower uterine segment.

Although ultrasound remains the primary imaging modality for this diagnosis, MRI may be useful in the setting of equivocal cases and also may aid in the detection of possible placental implantation or bladder wall invasion. Sagittal T2-weighted images are best for visualizing the cesarean section scar, which appears as low signal. Imaging features include thinning of the myometrium in the region of the scar next to a gestational sac with a correspondingly empty endometrial canal and cervix. Sagittal T2-weighted imaging can also be helpful in determining growth pattern of the gestational sac (ie whether it is primarily within the scar or within the isthmus). This may have implications in management and risk of rupture. Additionally, T1 pre contrast imaging may be helpful in the detection of blood products in the canal and pelvis.

The case presented here highlights the importance of early diagnosis and management of a cesarean scar ectopic pregnancy. This patient's presentation was similar to other case reports found in the literature. She presented with painless first trimester vaginal bleeding. This patient's gestational age is also consistent with previous studies indicating a presentation between 5 and 12 weeks of gestation. Imaging findings here demonstrate the eccentric location of the gestational sac, implantation of the placenta into the prior cesarean scar and thin residual (3 mm) myometrium. As the patient in this case study desired termination dilatation and evacuation was tried followed by laparotomy for abdominal hysterectomy.

In patients who desire fertility after treatment of an ectopic pregnancy, physicians can offer medical and more conservative surgical management uterine wedge dissection.[6] Systemic methotrexate with or without intrasac methotrexate can be used in patients with a gestational age of less than 8 weeks without fetal cardiac activity.[10] However, medical treatment alone may leave the cesarean scar defect unrepaired and susceptible to complications in subsequent pregnancies. Physicians should counsel patients who desire fertility, as 30% of these patients have difficulty conceiving after ectopic pregnancy treatment.[4] Moreover, physicians should discuss the long-term risks of these pregnancies on subsequent pregnancies including risk of recurrent ectopic pregnancy, uterine rupture, and placental attachment abnormalities.

CONCLUSION

In summary, there should remain a high clinical suspicion for a cesarean scar ectopic in a patient with a history of cesarean deliveries presenting with first trimester bleeding. These patients should be diagnosed with transvaginal ultrasound with confirmation with MRI if diagnosis is unable to be made via ultrasound. To prevent maternal hemorrhage, a patient presenting with a cesarean scar ectopic pregnancy should undergo prompt treatment depending on her clinical status and reproductive preferences.

REFERENCES

1. Kaelin Agten A., Cali G., Monteagudo A., Oviedo J., Ramos J., Timor-Tritsch I. The clinical outcome of cesarean scar pregnancies implanted “on the scar” versus “in the niche. Am J Obstet Gynecol. 2017;216(510):e1–e6.
2. ACOG Committee on Practice Bulletins Tubal ectopic pregnancy: ACOG practice bulletin. Clin Manage Guidelines Obstet Gynecol. 2018;131(3):e91–103. doi: 10.1097/AOG.0000000000002560
3. El-sayed El-badawy A., El-agwany S.A., El-habashy M.A., Elmansy A. Lower uterine segment pregnancy (Cesarean Scar Pregnancy and early placenta accreta: a rising complication from cesarean section with possible and similar early ultrasound diagnoses and management. Egypt J Radiol Nucl Med. 2015;46(4):977–980.
4. Alkatout I., Honemeyer U., Strauss A., Tinelli A., Malvasi A., Jonat W. Clinical diagnosis and treatment of ectopic pregnancy. Obstet Gynecol Surv. 2013;68(8):571–581. doi: 10.1097/OGX.0b013e31829cdbeb.
5. Deutchman M., Tubay A.T., Turok D.K. First trimester bleeding. Am Fam Phys. 2009;79(11):985–992.
6. Cömert E.H., Şal H., Ekici Y.S., Seda E., Guven G. Cesarean scar pregnancy: a case report. Turkiye Klinikleri Jinekoloji Obstetrik. 2018;26(1):37–39. doi: 10.5336/gynobstet.2016-53978.
7. Fylstra D.L., Pound-Chang T., Grant Miller M., Cooper A., Miller K.M. Ectopic pregnancy within a cesarean delivery scar: a case report. Am J Obstet Gynecol. 2002;187:302–304. doi: 10.1067/mob.2002.125998
8. Fylstra DL. Ectopic pregnancy not within the (distal) fallopian tube: etiology, diagnosis, and treatment. Am J Obstet Gynecol. 2012;206(4):289–299. doi: 10.1016/j.ajog.2011.10.857.
9. Hoover K.W., Tao G., Kent C.K. Trends in the diagnosis and treatment of ectopic pregnancy in the United States. Am Coll Obstet Gynecol. 2010;115:495–502.
10. Godin P.A., Bassil S., Donnez J. An ectopic pregnancy developing in a previous caesarian section scar. Fertil Steril. 1997;67(2):398–400. doi: 10.1016/S0015-0282(97)81930-9.
11. Shen L, Tan A, Zhu H, et al. bilateral uterine artery chemoembolization with methotrexate for cesarean scar pregnancy. AJOG,2012;207:386 el-6. Doi:10.1016/j.ajog.2012.09.012.
12. Pascual MA, Hereter L, Graupera B. Three dimensional power Doppler ultrasound diagnosis and conservative treatment of ectopic pregnancy in a cesarean section scar. Fertil Steril. 2007;88:706.e5-7. Doi:10.1016/j.fertnstert.2006.11.183.
13. Jurkovic D., Wilkinson H. Diagnosis and management of ectopic pregnancy.BMJ.2011;342(d3397):1353-1357. doi:10.1136/bmj.d3397

Short Communication

Subclinical hypothyroidism: When to treat

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KEY WORDS : Hypothyroidism, subclinical, TSH

Subclinical hypothyroidism (SCH)is a conditionin which there is a persistent elevation in thyroid-stimulatinghormone (TSH) (12 weeks or longer) in the setting of FT4/T4concentrations that are repeatedly found within the referenceinterval.[1] Subclinical hypot hyroidism may be categorized as grade 1 when TSH level sare between the upper limit of the reference range and 9.9mIU/L and as grade 2 if serum TSH levels are10mIU/L or higher.As multiple factors, such as subacute thyroiditis,recovery from nonthyroidal illness, andmedication (e.g., amiodarone and lithium), cancause transient abnormalities in the serum TSH level,subclinical hypothyroidism is diagnosed after excluding all other causes of elevated TSH levels.[2]

Risk of Progression to Overt Disease

The natural history of subclinical hypothyroidism depends onseveral other factors like underlying cause and the characteristicsof each patient. It can be reversible, or it can progress to overthypothyroidism. Progression has been reported to occur inapproximately 2–6% of affected patients per year.[2] There is increased risk of progression to overt hypothyroidismin patients who are older, female, and positive for anti-TPO (thyroidperoxidase) antibodies, goiter, neck irradiation orradioactive iodine exposureserum TSH values >10 mIU/L.[3]

Clinical impact of subclinical hypothyroidism

Many patients with subclinical hypothyroidismare asymptomatic. Risk of hypothyroid symptoms are more when TSH level is more than 10 mIU/L.

Cardiovascular risk: Subclinical hypothyroidism has been associated with increasedcardiovascular risk by different mechanisms affecting serumcholesterol, heart rhythm and rate, ventricular function, riskof coronary artery disease and cardiovascular mortality. Theseoperate by inducing left ventricular diastolic dysfunction, reduced systolic function, increased vascular resistance, stiffening of arteries and endothelial dysfunction.[4] Thyroid dysfunction, that is, both high and suppressed TSH, is one of the exacerbating condition in heart failure and American Heart Association (AHA) recommend its determination as a precipitating factor in heart failure patients. Sub clinical hypo thyroidism, particularly among persons with TSH levels of more than 7 mIU/L, has also been associated with increased risks of congestive heart failure and fatal stroke.[2,5]

Should subclinical hypothyroidism be treated at all?

Treatment of asymptomatic patients with serum TSH concentrations less than 10 mIU/Lremains unclear. Retrospective study conducted by Razvi et al.[6] of individuals with mild subclinical hypothyroidism reported an association of levothyroxine treatment, compared with non treatment, with lower all-cause mortality and reduced ischemic heart disease events in patients who were younger (40-70 years), but not in patients older than 70 years. In another similarly designed study by Anderson et al.[7] levothyroxine treatment was associated with a reduction in all-cause mortality in patients younger than 65 years but not myocardial infarction or cardiovascular death in this age group and not with these outcomes in older patients.

Initiationof treatment can be considered for patients with a TSH level of 7.0 to 9.9 mIU/L based on observational data indicating increasedcardiovascular risk, and a therapeutic trial of levothyroxinecan be considered for patients with TSH 4.5 to 6.9 mIU/L who have substantial symptoms of hypothyroidism.

Patients whose serum TSH levels exceed 10 mIU/L are at increasedrisk for heart failure and cardiovascular mortality and should be considered for treatment with levothyroxine.[8]

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General therapeutic approach to the management of subclinical hypothyroidism in nonpregnant adults[8]

TSH levels	Patients < 65 years	Patients > 65 years
o.4-4.4 mIU/L	Normal thyrotropin reference range	
4.5-6.9mIU/L	• Measure thyroid peroxidase (TPO) antibodies • Annual follow-up TSH measurementof asymptomatic patients • Consider treatment with levothyroxine (LT4)in patients with, o Multiple symptoms of hypothyroidism o Positive TPO antibodies o Progressively increasing TSH levels o Planning for pregnancy o Goiter	Treatment is not recommended
7.0-9.9 mIU/L	Treat with LT4 to reduce risk of fatal stroke and coronary heart disease (CHD) mortalitya	Consider treatment with LT4 to reduce risk of CHD mortalitya
>10 mIU/L	Treat with LT4 to reduce risk of progression to overt hypothyroidism, heart failure, CHD events, and CHD mortalitya	
a: Recommendation is based on anassociation of subclinicalhypothyroidism with increasedrates to the outcomes listedand is not based on clinical trialevidence that treatment can reducethese outcomes.		

REFERENCES

1. Fatourechi V. Subclinical hypothyroidism: an update for primary care physicians. Mayo Clin Proc 2009;1:65–71.
2. Peeters RP. Subclinical hypothyroidism. N Engl J Med 2017;376:2556-65.
3. Azim S, Nasr C. Subclinical hypothyroidism: When to treat.Cleve Clin J Med. 2019 Feb;86(2):101-110.
4. Pearce SHS et al. 2013 ETA guideline: management of subclinical hypothyroidism. Eur Thyroid J 2013;2:215–28.
5. Gencer B et al. Thyroid Studies Collaboration. Subclinical thyroid dysfunction and the risk of heart failure events: an individual participant data analysis from six prospective cohorts. Circulation 2012;126:1040-9
6. Razvi S et al. Levothyroxine treatment of subclinical hypothyroidism, fatal and nonfatal cardiovascular events, and mortality. Arch Intern Med. 2012;172(10):811-817.
7. Andersen MN, Olsen AM, Madsen JC, et al. Levothyroxine substitution in patients with subclinical hypothyroidism and the risk of myocardial infarction and mortality. PLoS One. 2015;10(6):e0129793
8. Biondi B et al. Subclinical hypothyroidism: a review. JAMA. 2019;322(2):153-160.

Short Communication

Biomedical Waste Disposal Training and Assessment Android Application

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Biomedical waste has greatest risk to healthcare, sanitation workers, waste handlers, scavengers, those living in the vicinity of hospitals and the general community. Thus, biomedical waste management has emerged as an issue of major concern not only to clinics, hospitals, nursing home authorities but also to the environment.

The biomedical waste without proper sterilization carries the risk of contracting acquired immune deficiency syndrome (AIDS), Hepatitis B & C, severe acute respiratory syndrome (SARS), tetanus, psychosocial trauma etc.[1]

There is a big network of Health Care Institutions in India. So it is very essential to properly collect, segregate, store, transport, treat and disposed off hospital waste like body parts, organs, tissues, blood and body fluids along with soiled linen, cotton, bandage and plaster casts from infected and contaminated areas in safe manner to prevent nosocomial or hospital acquired infection. Expired drugs, cytotoxic material and sharp biomedical waste add burden to problem.

Planning the waste management and recycling for all of the waste generated in the health care facilities is a crucial task which plays an exceptionally important role in the worldwide cleanliness, public health, conservation of resources and sustainability of the ecosystem. Recycling medical waste minimizes utilization of raw material and reduces the amount of the waste materials that must be disposed in a landfill.

Biomedical waste management starts from the place of its generation. Segregation of waste plays a major role for improved biomedical waste management. It is important to reduce the volume of infectious waste otherwise the quantum of waste will go beyond the control of management.[2]

Lack of segregation practices, results in mixing of hospital wastes with general waste making the whole waste stream hazardous. Inappropriate segregation ultimately results in an incorrect method of waste disposal which leads to increase risk of air, water and soil pollution. In same manner improper incineration leads to emissions of ash. Illegal trading of used syringes, injection needles and medical tools can also be prevented by proper management strategies. Awareness about hazards of biomedical waste and its proper disposal is required for a safe and healthy future.[3,4]

There are specific Standards and Objective element in NABH Chapters to take care of Knowledge, attitude and Practices of Biomedical Waste management amongst health care workers. As experience says it requires constant training and reminder to develop culture of proper BMW Segregation and Management thereafter. In bigger institute it is difficult to give frequent training looking at scope of work at HCO.

In the era of technology all healthcare worker starting from sweeper to super specialist are under influence of smartphone. Most of them are 24x7 with their cell phone. Taking advatage of Mobile addiction(!) we have develop biomedical waste disposal application according latest amendment of Biomedical Waste Management Rules till 2019 to give hands on training with frequent exposure to simulated biomedical waste segregation exercise

Description of Application: After installation of biomedical waste disposal application form play store(https://play.google.com/store/apps/details?id=u.biomedicalwaste). you will receive two option. 1.Training : which has image with instrution and link of Youtube Video explaining which biomedicdal waste disposal need to be segregate in which colour bin. 2. Test: It has Three level, It has 30/40/50 Biomedical Waste image respectively and if you correctly segretate 25/35/45 biomedical waste you will receive certificate with date, your name stating your score and level in which you have taken test.

We hope this application will be useful to all HCO, We Welcome feedback regarding applicaiton on cjshah79@yahoo.co.in

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REFERENCE

1. Bhagawati G, Nandwani S, Singhal S (2015) Awareness and practices regarding bio-medical waste management among health care workers in a tertiary care hospital in Delhi. Indian J Med Microbiol 33(4): 580-582.
2. Mishra K, Sharma A, Sarita, Ayub S (2016) A study: Biomedical waste management in India. IOSR-JESTFT 10(5): 64-67.
3. Arora M (2013) Hospital waste: Management & handling. IJOART 2(11): 238-245.
4. David JJ, Shanbag P (2016) Awareness and practices regarding biomedical waste management among health-care workers in a tertiary care hospital in Delhi: Comment. Indian J Med Microbiol 34(3): 391-392.

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