



I.M.A.G.S.B. NEWS BULLETIN

Estd. On 2-3-1945

GUJARAT MEDICAL JOURNAL

INDIAN MEDICAL ASSOCIATION, GUJARAT STATE BRANCH

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GMJ



**STATE PRESIDENT
AND
HON. STATE SECRETARY'S
MESSAGE**



Dear Memberes
Seasons greetings.

Every body enjoying monsoon particularly south Gujarat and Saurashtra regions friends. Our journey of this month started on 1st July celebrating as a doctors day. We are feeling proud that our noble profession is celebrated as a Doctors day all over India.

On 1st July, Ahmedabad Medical Association arranged AMACON at AMA house with wonderful scientific programs. We had inaugurated this program. On this occasion, Women Doctors Wing (WDW) installation ceremony arranged. Dr Bhupendra Shah had installed WDW under leadership of Dr Monaben Desai as a chairperson and Dr Gargi Maheshbhai as a secretary. We congratulate whole team and best wishes for their new journey . We assured whole hearted support .

On Doctors day, many local branches had organized blood donation camp as a part of Doctors day celebration from 1st July to 7th July. Himatnagar branch also organized blood donation camp and its branch member Dr Dilip Pujara had donated 75th time on this day. Many local branches had arranged press conference and public awareness program against violence and zero tolerance as per guidelines of IMA headquarters.

Our PPS Managing Director, Dr Bipinbhai And Dr Anilbhai Nayak had chaired and inaugurated PPS seminar at Surat.

Under leadership of IMA GSB, the representative of various association like Orthopaedics, Neuro Surgeons and General Surgeons had meeting with Smt. Jayanti Ravi, Commissioner of Health; Dr Dholakia, Director of Medical services and other official of Govt. regarding Vahan Akasmat Yojana and discussed our concerns against this scheme and they assured that our suggestions to put in front of Honourable Deputy CM Shree Nitinbhai Patel, positively.

The Government is giving us real good reasons to sit together and work to save the health providers to eventually save the health of the nation, on the other hand the Government expects us to fulfill their deficiencies and provide health care to the people of our country, whereas on the other hand, they look out for all means to punish us for even minor clerical errors by bringing harsh regulation against the medical profession.

Our Honorable Prime Minister declares 'End TB by 2025' and then the Government asks IMA to take up this project to eradicate TB by sensitizing all medical professionals in Private Sector and increase notification of TB cases. The irony is that although they know 70% of the health care in the country is provided by private doctors and small nursing homes & hospitals, however they only regard public sector hospitals as their means for dissemination of populist health projects and programs.

The Government's Ayushman Bharat Mission may be a good populist move on paper but if the Government listens to & accept our suggestions and involves us in framing rules and projects costing leading to acceptable packages, only then can it serve its purpose to change the health scenario of the country.

All our IMA leaders of every State will find out and suggest the minimum acceptable packages for common procedures and medical packages as this can only get us some good reasonable return of our hard work which is our habit when providing care to our patients.

The proposed amended National Medical Commission Bill 2018, pending consideration before the Lok Sabha in all its likelihood could be taken up for consideration at the ensuing Monsoon session in the Lok Sabha scheduled from 18th July, 2018.

The net result which is vividly seen is that the cosmetic and illusory changes which the Government of India, has proposed are more of a facade as they do not serve any meaning purpose in any way.

This Bill still remains anti-poor, anti-federal and non representative in character.

As such, it is imperative that the unity and solidarity invoked by the Indian Medical Association to resist this draconian Bill is the only way and therefore by vigilance and invocation of timely and planned initiatives and moves counteracting the intent and obstinacy of the Government of India, is key to strategy by the IMA through the collective unity and wisdom alike.

Against all odds a dent has been made which has to be taken to its logical finality with courage, conviction and unity as the sole weapon as depiction of our resistance with a commitment that 'No National Medical Commission'.

The IMA has proposed alternatives in all its details in the form of 'Amended Indian Medical Council Act, 1956 and National Medical Grants Commission Bill 2017 in the larger interest of medical education, profession and country as a whole.

We sincerely hope that the ensuing Monsoon Sessions of the Parliament will not give the medical profession any jitters and some maturity will prevail upon the Government for the betterment of the health of the nation.

Again On 27th - 28th October, Gimacon 2018, organised by IMA Himatnagar. All members are requested to register. In our tenure, this is the second edition of Journal of IMA GSB. We congratulate Dr. K R Sangavi and his whole team for their hard work and wonderful job. Thanks for your kind cooperation and support.

Long Live IMA



DR. BHUPENDRA M. SHAH
(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 very regularly we are publishing GMJ.

You all know that GMJ is indexed in "Index Copernicus International" (ICI), and all the issues of GMJ since 2015 can be viewed on <https://journals.indexcopernicus.com/search/details?id=43553>

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 into research and publications to seriously consider GMJ for their manuscripts. We are also making all efforts to make our journal website at par with any leading medical journal. 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 than 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 work 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 mention here, the determined and committed efforts made by our enthusiastic and dynamic past president Dr. Yogendra Modi and hon. Secretary of IMA GSB Dr. Kamlesh Saini along with our ex-editor Dr. Amitbhai P. Shah and 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 Dr. Cinmay Shah (Bhavnagar medical college) for helping us time to time.

Our sincere thanks to GSB president Dr. Bhupendra Shah 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 and Dr. Mahendrabhai Desai for their guidance and help.

With regards,

DR. K. R. SANGHAVI
Editor-IMA-GSB-GMJ

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JULY-2018

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ORIGINAL ARTICLE

Public Awareness Survey about Anesthesia and Anesthesiologist (A study of 210 cases)

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KEY WORDS : Anaesthesia, Anaesthesiologist, Patient knowledge

ABSTRACT

INTRODUCTION : Anaesthesiologist has always been a “behind the screen” specialist. Despite its phenomenal growth in the recent past, there is inadequate public knowledge regarding the speciality as well as the exact role of anaesthesiologist.

METHOD : The present study was a survey conducted using predesigned questionnaire containing questions related to the awareness and knowledge of anaesthesia among patients, under graduate medical students, post graduate medical students, nursing students and general public.

RESULTS : Only 46% knows that anaesthesiologists are fully trained medical doctors. Only 30% responder knew that their role is also in I.C.U, 25% knew that their role in pain management. 81.4% afraid of post-operative pain, 45.2% afraid their recovery from anaesthesia. Only 149 responders were aware about information given in consent. 76.6% responders did not realise that monitoring, pain management and care of haemodynamic could be under the control of anaesthetists.

CONCLUSION : In conclusion, this study identified deficiencies in patients' knowledge of anaesthesia and the role of anaesthetists. On-going work is still required in order to better explain the wide scope of this profession to the public.

INTRODUCTION

Anaesthesiologist has always been a “behind the screen” specialist. Despite its phenomenal growth in the recent past, there is inadequate public knowledge regarding the speciality as well as the exact role of anaesthesiologist.¹ Many, if not all, practicing an anaesthesiologist have struggled at some point with issue relating to status and image of the speciality. It has been felt that though the role of anaesthesiologist is crucial, he doesn't get the due deserve². There is a general feeling that the speciality of anaesthesia carries low profile when compared to other medical specialities³. Despite great evolution in anaesthesia, the network media doesn't emphasize the role of anaesthesia team in successful outcome of surgery. Rather it focuses on legal aspects surrounding the patients' perioperative complications and demises⁴.

One role that has been much talked about recently is that of the **PERI-OPERATIVE PHYSICIAN**⁵.

With all this back ground, study was conducted to know about:-

- 1] Patients' and general public perception about anaesthesiologist and anaesthesia.
- 2] To impart information to the patients about anaesthesia at the time of pre-operative visit.

MATERIAL AND METHOD

The study of public awareness survey about anaesthesia and anaesthesiologist was carried out in P.D.U. Medical College after approval of Institutional Ethics Committee. We included 210 subjects from these seven groups.

Group 1: Patients enrolled for surgeries

Group 2: Nursing students

Group 3: Under graduate M.B.B.S. students

Group 4: Post graduate students in medicine student

Group 5: common public with literacy level <10 standard

Group 6: common public with literacy level graduates

Group 7: common public with literacy level post graduates

Questions inquiring about role of anaesthesiologist, presence of anaesthesiologist inside the theatre,

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qualification; also about various types, concerns, complications of anaesthesia were asked. The exclusion criteria were who cannot understand importance of the study, language of communication mentally challenged patients, unwilling be involved in the study

We had distributed questionnaires at different time to patients aged 16 and above undergoing elective surgeries in our hospital, Under graduate medical student, Post graduate medical student, nursing student and general public and they were asked to fill. The questions were framed to assess patients' knowledge about anaesthesiologist and their work and patients' attitudes towards anaesthesiologists. The data was expressed as percentage.

QUESTIONNAIRES

Perception of anaesthetists' qualification -

- A1. Fully trained medical doctors who are specialists in their field
- A2. Non specialist medical doctors who give anaesthetics
- A3. University graduates who can give anaesthesia
- A4. Nurses who are trained to give anaesthesia
- A5. Hospital technicians trained to give anaesthesia

Perception of anaesthetists' roles -

- B1. Giving anaesthesia for operation
- B2. Looking after patients in the intensive care unit
- B3. Helping to treat patient with a lot of pain
- B4. Performing major surgery
- B5. Emergency in the hospital generally
- B6. Helping to treat patient in pain after surgery
- B7. Emergency transfers of patients from hospital and accident sites
- B8. Difficulty or specialised intravenous access and monitoring

Perception of anaesthetists' responsibilities -

- C1. Putting the patient to sleep
- C2. Monitoring the heart, blood pressure and breathing
- C3. Helping the surgeon with the actual surgery
- C4. Treating any medical problems that may occur
- C5. Making sure the patient wakes up in good shape
- C6. Making sure the patient in pain free
- C7. Supervising the patients in the recovery room

Attitude of patients towards anaesthesia -

- 1) I would like to meet the anaesthetist before my operation every time.
1 2 3 4 5 6 7
- 2) A good operation result requires teamwork from both the surgeon and anaesthetist.
1 2 3 4 5 6 7
- 3) I am more nervous about the anaesthetic than the surgery itself.
1 2 3 4 5 6 7
- 4) Anaesthetists should tell you what all the possible complications of an anaesthetic are, no matter how serious.
1 2 3 4 5 6 7

Where,

- 1. strongly agree 2. Agree
- 3. Somewhat agree 4. Neither agree nor disagree
- 5. Somewhat disagree 6. Disagree
- 7. Strongly disagree

Attitude of responders about Anesthesia procedure -

- 1. Is he-charge of operation theatre ?
- 2. Is he responsible for perioperative care of the patients ?
- 3. Does he also work outside the operation theatre ?
- 4. Do you want to know your anaesthetist ?
- 5. Do you want to choose your anaesthetist ?
- 6. Are you afraid of operation ?
- 7. Are you afraid of anaesthesia ?
- 8. Are you afraid that you will not come out of anaesthesia ?
- 9. Are you afraid of post-operative pain ?
- 10. Do you like general anaesthesia ?
- 11. Do you like spinal anaesthesia ?
- 12. Have you been anaesthetized before ?
- 13. You think Anaesthesia is necessary for surgery ?
- 14. Are you aware of the information given in the consent form which you or your relatives have signed for approval of surgery?
- 15. 16 In case of any future surgery would you like to know about your anaesthetist ?

OBSERVATION AND RESULT

The study was carried out on 210 persons, 30 in each group which consisted of patients, nursing staff, under graduate medical students, post graduate medical students and general public aging above 16 years and of either sex.

Table : 1 Demographic Profile

Variable	Total
Age(years)	
18-30	155
30-50	30
>50	25
Sex	
Male	104
Female	106

Table 1 shows demographic profile (age and sex) of all groups

Table 2 : Perception of Anesthetists' qualification

	Nursing student (n=30)	Patient (n=30)	MBBS (n=30)	PG Medical (n=30)	< 10 std (n=30)	Post Graduate (n=30)	Graduate (n=30)	Total (n=210)
A1	17	3	30	30	2	5	8	95
A2	10	15	0	0	5	9	15	54
A3	3	2	0	0	8	5	1	19
A4	0	7	0	0	9	7	5	28
A5	0	3	0	0	6	4	1	14

As per table 2 shows that among nursing only 56%, patients group only 10%, public educated < 10 std. only 26%, public educated up to graduate only 5(16%) and public educated up to postgraduate only 26% thought that anesthetists were medically qualified.

Table 3: Perception of Anesthetists' roles

	Nursing student (n=30)	Patient (n=30)	MBBS (n=30)	PG Medical (n=30)	< 10 std (n=30)	Post Graduate (n=30)	Graduate (n=30)	Total (n=210)
B1	30	30	30	30	30	30	30	210
B2	3	0	26	30	0	1	3	63
B3	4	1	20	26	0	1	2	54
B4	2	1	0	0	0	0	0	3
B5	3	0	25	30	0	0	0	58
B6	2	0	17	25	0	0	0	44
B7	3	0	22	26	0	0	0	51
B8	5	0	20	25	0	0	0	50

As per Table 3 subjects among all groups realized that anesthetist involved in giving anesthesia for operations. Only 63(30%) have knowledge about role of anesthetist in I.C.U., poorest knowledge in patients and maximum in medical students. Only 54(25%) have knowledge about role of anesthetist in Pain Management. Only 58(28%) have knowledge about role of anesthetist in Emergency management. Only 44(25%) have knowledge about role of anesthetist in post-operative Pain Management. Only 51(24%) have knowledge about role of anesthetist in Emergency transfer of patients from hospitals and accident sites. Only 50(25%) have knowledge about role of anesthetist in difficult I.V. access.

Table 4 : Perception of Anesthetists' responsibilities

	Nursing student (n=30)	Patient (n=30)	MBBS (n=30)	PG Medical (n=30)	< 10 std (n=30)	Post Graduate (n=30)	Graduate (n=30)	Total (n=210)
C1	30	30	30	30	30	30	30	210
C2	4	0	20	24	0	0	1	49
C3	1	0	0	0	1	0	0	2
C4	3	0	14	20	0	1	1	39
C5	12	6	25	28	6	10	12	99
C6	22	20	30	30	20	22	25	169
C7	2	0	22	25	0	0	0	49

As per Table 5 and graph all subject considered anesthetist to be responsible for putting the patients to sleep. 76.6% did not realize that all vitals (pulse, BP and breathing) were under control of anesthetist. There was only 39(18%) appreciation that treating medical problem during surgery, giving necessary drugs and monitor vital signs are the responsibilities of the anesthetist.

Table 5:Attitude of patients towards anaesthesia

Group	Meet anes bf ot (median)	Require team work (median)	More nervous about anaesthetic (median)	Anae. Should tell complication (median)
1	1	1	1.5	1
2	4	4	5	2.5
3	1	1	4	1
4	2	1	6	1
5	4	4	4.5	2
6	4	4	5	2
7	3	3	5	2

As per table 5 majority person (64.3%) in all groups would like to meet the anesthetist before operation. (65%) feel that a good operation requires teamwork from both the surgeon and anesthetist. Medical students (100%), nursing students (93%) and post graduate people (64%) were giving more positive response. Responder more nervous about anesthesia. Nervousness about anesthesia more among patients group and illiterate. Most responder preferred to know all the complication of an anesthesia, no matter how serious they are.

DISCUSSION

Anaesthetist provides medical care to patients in variety of situation including preoperative evaluation, consultation with surgical team, creation of a plan for anaesthesia tailored to each patient, airway management, intra operative life support, I.C.U., provision of pain control, intra operative diagnostic stabilization, proper post-operative management of patients, chronic pain control, emergency transport of patient. The speciality of anaesthesia has revolutionized by development of new anaesthetic agents, techniques and development in monitoring system.

As per table 2 of our study, when we asked what is the qualification of the anaesthetist? Out of 210 only 95(46%) knows that fully trained medical doctors who are specialists in their field. 30% of them didn't know that they are doctors. This study supported by Birva N kharaet al study on knowledge about anaesthesia and perception about anaesthesiologist among patients at a rural tertiary care Hospital⁶. There were total 300 participants enrolled in the study. Only 233 participants believe that anaesthetist is a doctor.

All responder knew that anaesthesiologist put patient to sleep, only 30% responder knew that their role is also in

Table 6 : Attitude of responders about Anesthesia procedure

	Nursing student (n=30)	Patient (n=30)	MBBS (n=30)	PG Medical (n=30)	< 10 std (n=30)	Post Graduate (n=30)	Graduate (n=30)	Total (n=210)
1	10	2	10	20	1	2	2	47
2	10	1	8	20	0	1	2	42
3	6	0	25	29	0	2	2	64
4	15	8	26	30	8	10	15	112
5	20	8	27	29	8	10	12	114
6	26	25	25	28	26	27	25	182
7	12	15	22	18	15	21	21	124
8	19	18	9	4	18	15	12	95
9	29	25	22	20	26	24	25	171
10	20	22	20	25	19	22	23	151
11	10	8	10	5	11	8	7	59
12	2	5	2	3	3	2	1	18
13	30	25	30	30	22	25	27	189
14	22	18	28	30	10	18	23	149
15	30	16	30	30	12	17	24	159

As per table 19 all over only 22.4% have knowledge that anesthetist is in charge of operation theatre. Only 20% have knowledge that anesthetist is responsible for peri operative care of patient. Only 54.3% were wanted to choose their anesthetist. 81.4% afraid of post-operative pain. 72% like general anesthesia. Only 28% like spinal anesthesia. All over 90% thought Anesthesia is necessary for surgery. 70.9% aware of the information given in the consent.

I.C.U. Only 25% knew that their role in pain management. There is very little knowledge about the role of anaesthetists in emergency transfer of patient from hospital to tertiary centre and accident site to hospital, also role of anaesthetists in difficult intravenous access, airway management and life support skills. Similar study done by Udit Naithani et al found that Patients aware of Anaesthesiologist's role in ICU, painless labour and relief of chronic pain were only 7.33%, 12.67% and 4.67% respectively. The role of an anaesthesiologist outside the OT - ICU, painless labour & pain clinic was not known to majority of patients².

Most of respondents considered anaesthetist to be responsible for actually putting the patient to sleep. 76.6% responders did not realise that monitoring, pain management and care of haemodynamic could be under the control of anaesthetists. There was also little appreciation that treating medical problems during surgery (18.6), giving necessary drug, and care and stability of vitals (23.33%) are responsibilities of the anaesthetist. There was little knowledge (23.33%) about role of anaesthetist in post-operative period in recovery

room. Our study also consistent with Bhattarai B, et al found that 72.5% of respondents who knew anaesthesiologists have definitive role in the theatre, still they thought the role was limited to administering drugs and monitoring patients intraoperative, whereas 27.5% had added information about the role of anaesthesiologist in the post-operative period⁴.

Majority of respondents would like to see the anaesthetist preoperatively and many would like to see the anaesthetist after the operation to find out how the anaesthesia proceed and want to know presence of anaesthetists throughout their procedure. In our study 65% responders believe that good operation result requires team work from both the surgeon and anaesthetists. Respondents were more nervous about anaesthesia than surgery. Most of respondents (92.3%) preferred to know all the possible complications of related to drugs and procedure of anaesthesia, in any serious conditions.

In our study, 81.4% afraid of post-operative pain, 45.2% afraid their recovery from anaesthesia and regain the same condition after anaesthesia.

SeetharamanHariharan done study suggested that the most common fear of patients regarding anaesthesia reported in many studies is 'not waking up' after anaesthesia. Postoperative pain is the next common fear which was expressed by patients across the world¹.

In our study shows that only 149 out of 210 responder aware about information given in consent. Illiteracy could also be the reason; busy hospital schedule not giving doctors enough time to explain the risk factors could be another reason. Similar study was done by Wafaa E. Ismaeil et al. Only 27.64% of the patients were aware of the information given in the consent form which they or their relatives had signed⁷.

CONCLUSION

In conclusion, this study identified deficiencies in patients' knowledge of anaesthesia and the role of anaesthetists. Majority of patients regard the anaesthetist as a medical specialist, the actual roles of anaesthetists in I.C.U. management, pain management, emergency transfer of patients, difficult i.v. access, responsibility of anaesthetists during operation and attitude towards anaesthesia remain poorly understood. On-going work is still required in order to better explain the wide scope of this profession to the public. This would help to alleviate fear among surgical patients, as well as increase the attractiveness of this specialty among medical students and interns.

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ORIGINAL ARTICLE

Clinico-demographic profile of patients admitted in PICU at tertiary care centre in Ahmedabad.

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KEY WORDS : P.I.C.U., Clinical profile, Demography, Respiratory system, Outcome.

ABSTRACT

Introduction : Advances in paediatrics especially in the field of intensive care have dramatically improved the prognosis for the critically ill children. Numerous conditions that were previously fatal are now treatable, and many children who previously would have sustained a permanent disability now recover completely.

Aims & objectives: is to study the demographic, clinical profile, morbidity, mortality & outcome of the patients admitted in P.I.C.U.

Materials & Method: It is a prospective observational study conducted at a Paediatric I.C.U of tertiary care centre (Shardaben general hospital) affiliated with medical college during September 2017 to June 2018.

Result: Out of 242 Children admitted to PICU 48.13% of the patients were infants, 53.30% were male & 46.70% female. 74.80 % of the patients were directly admitted in PICU while rest were shifted from ward when the patient deteriorated. Out of total patients, 53.31% patients had respiratory system involvement, 19.84% CNS, 18.5% multi system, 5.79% GIT, 0.83% renal, 0.83% CVS and 0.83% endocrine system involvement. As per outcome status, 80.16% were discharged & 19.84% were expired. Among the expiries, Respiratory involvement (37.50%) was most common as primary system involvement on presentation.

Conclusion: In children who required admission in PICU maximum were male infants. The occurrence of disease critical enough to warrant PICU admission, were maximum involving respiratory system.

INTRODUCTION

Advances in pediatrics especially in the field of intensive care have dramatically improved the prognosis for the critically ill children. Numerous conditions that were previously fatal are now treatable, and many children who previously would have sustained a permanent disability now recover completely. The current evidence suggests that the sickest subgroup of critically ill children are less likely to die if treated in pediatric intensive care unit (PICU) in a tertiary care hospital.

Advances in the care of the critically ill child have not come cheaply, and there are problems in terms of costs, resources, technical problems, and stress on staff, family and child. To some, intensive care appears over-invasive, unreasonably expensive, frequently ineffective, and a drain on the limited health service resources. So, for the optimal management of the critically ill children, the pediatrician dealing with the children should be familiar with critical complications of all childhood diseases, and be aware how invasive intensive care can significantly improve the prognosis.

MATERIALS & METHOD

STUDY TYPE

- It is a prospective observational study.

STUDY SITE

- Paediatric I.C.U of Shardaben Municipal General Hospital, affiliated to N.H.L. Medical College, Ahmedabad.

STUDY PERIOD

- September 2017 to June 2018

INCLUSION CRITERIA

- All the patients from the age of 1 month to 18 years who were admitted in the paediatric I.C.U. fulfilling admission criteria as per department protocol.
- All children 1 month to 18 years of age admitted to paediatric ward and shifted to PICU.

EXCLUSION CRITERIA

- All DAMA patients.

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Table I : Age wise distribution

Age of child	Number of patients	Percentage of total	Number of patients	Percentage of total
<1 year	117	48.34%	128	44.8%
1-5 year	76	31.41%	111	38.8%
5-12 year	47	19.42%	35	12.2%
12-18 year	02	0.83%	12	4.2%
Total	242		286	

- Patients expired within 2 hours.
- All surgical cases.

Out of 60 bedded ward, the PICU in the institute is a 3 bedded with 3 ventilators. It was a Well-equipped PICU with adequate Nursing staff and round-the clock pediatrician.

CRITERIA FOR P.I.C.U.ADMISSIONS

Mechanical ventilation

Impending respiratory failure

Stridor

Oxygen requirement to maintain spo₂ >94

Severe respiratory distress

Respiratory rate >70 per min

Chest indrawing- use of accessory muscles of respiration

Prolonged episodes of apnoea

Comatose patients – GCS <11, altered sensorium

Prolonged or Multiple convulsions

All type of poisonings

Shock / circulatory failure

Systemic bleeding

Recovery from critical illness requiring monitoring

All ward patients with potential unstable conditions requiring close monitoring.

Shock⁽¹⁾ is an acute process characterized by the body's inability to deliver adequate oxygen to meet the metabolic demands of vital organs and tissues.

M.O.D.S.⁽²⁾: Multiple organ dysfunction syndrome was defined as progressive dysfunction of two or more major organ systems in a critically ill patient that makes it impossible to maintain homeostasis without medical intervention.

OBSERVATION AND DISCUSSION

In present study, out of total 242 patients, maximum patients are infants (48.3%). This is comparable to a study conducted in southern India by Sujay kumar Earan et al(4) which shows 53.4% of the total to be infants. This was similar to that reported by Rady(5), Einloft et al(6)(40%), and Lanetzki et al(7). In the age group of 1-5 year, there were 31.41% patients, which was 27.7% in the study by Sujay Kumar Earan et al(4).

The higher percentage of PICU admissions in infants can be attributed to a number of factors.

- Low immunity
- Malnutrition more in infants
- Higher rates of infectious diseases in infants as compared to other group.
- Over crowding

The lower percentage of PICU admissions in age group >12 years attributed to following factors.

- Lower incidence of infectious diseases in adolescence.
- More adolescence attending medical OPD than paediatrics OPD in most set up.

Table II. : Source of admission

	Number of patients	Percentage of total
From ward	61	25.20%
Direct PICU	181	74.80%
Total	242	

Table III. : Number of patients transferred from other hospital Which were admitted directly into P.I.C.U.

Duration of stay at previous hospital	Number of patients
< 24hrs	16
1-3 days	45
3-4 days	12
>= 5 days	09

Table IV: Primary system involved on presentation

	Number of patients	Percentage of total	Sujay kumar Earan et al(4)	Rukamani et al(10)	Ali Mohammed et al(3)
Respiratory System	129	53.31%	40.2%	25.5%	43%
C.V.S	2	0.83%		3.78%	20.9%
C.N.S	48	19.84%	16%	16.16%	12.2%
G.I.T	14	5.79%	9.9%	6.06%	1%
Renal	2	0.83%			
Multi system	45	18.5%			
Endocrine	2	0.83%			
Total	242				

In the present study, out of 242 patients, almost 75% were directly admitted in PICU and the rest were shifted from pediatric ward when they deteriorated and fulfilled criteria for PICU admission. This is comparable to study by Asim Khurshid et al(8) showed that, total admissions from emergency were 70%, from the ward were 20% and from operation theatre 10%.

Monitoring is an essential component of pediatric care and it is important to react at first sign of worsening and shift such patients to PICU so that overall survival can be improved. This shows the lack of awareness and literacy regarding early consultation to general practitioner, at PICU or referral doctor.

In the present study out of 181 patients admitted in P.I.C.U. , 82 were referred from other hospital . Out of 82 patients ,16 patients (19.5%) came within 24 hours of outside admission. 45 patients (54.8%) came within 1-3 days of outside admission. 12 patients (14.6%) came within 3-4th day of outside admission. Whereas 09 patients (10.9%) came on or after 5th day of outside admission. Rest of the 99 patients out of 181 admitted directly in P.I.C.U. came directly from home. Out of these 99 patients which were directly admitted to P.I.C.U. , 67 patients were seeking consultation on O.P.D. basis at different clinics

Out of 242 patients admitted in P.I.C.U 129 (53.3%) were primarily due to respiratory cause of which 85 (65.89%) were due to pneumonia, 44 (34.1%) patients presented with bronchiolitis were as 2 (0.01%) patients were found to have congenital lung anomalies.

Study by Bandya Sahoo et al(11) revealed that infectious diseases (20.7%), respiratory diseases (19.1%) and central nervous system diseases (14.3%) were the Major Primary Causes of admission into PICU and Study by Batista et al.(9) showed that most hospitalizations were primarily due to clinical conditions involving respiratory illnesses such as pneumonia, bronchiolitis, and asthma.

This means that overall incidence of respiratory system infections like pneumonia, bronchiolitis and ALTB, HRAD is higher and these patients are more vulnerable to get PICU admissions as compared to GI system disorders.

In the study done by Suresh Goyal et al(12) 20% were of respiratory system. In the same study CNS, GI, Infectious disease, CVS, hematological were respectively 19.2%, 18.9%, 18.9%, 8.9%, 3.9%. This may be due to different spectrum of illness prevalent in that locality and differing criteria for PICU admission and the level of PICU setting..

Table V : Morbidity Profile:

	Number of patients	percentage of total
Shock	78	32.23%
Mechanical ventilation	60	24.79%
M.O.D.S	33	13.64%
Local complication of Intravenous access	11	16.41%
Bed sores	0	0%

Table VI : Outcome

Present study			Ali mohammed et al(3)	
	Number of patients	Percentage of total	Number of patients	Percentage of total
Discharged	194	80.16%	249	87.1%
Expiry	48	19.84%	37	12.9%
Total	242		286	

In present study, 78(32.23%) were in shock, 60(24.79%) needed mechanical ventilation, 33(13.64%) had M.O.D.S, 11(16.41%) had local complication of Intravenous access.

In a study done by Paridon B et al(13) showed that, out of 79 children admitted to PICU 44 (56%) children were with septic shock.

This is comparable to study by Bandya Sahoo et al(11) which showed 25% and by Villeneuve A(14) showed 21.4% had MODS during PICU stay.

This is comparable to the study done by Rukmani et al(10) showed 20.68% patients required mechanical ventilation.

In present study, out of 242 patients admitted in PICU, 194 (80.16%) were discharged and 48(19.84%) were expired. This is comparable to study done by Asim Khurshid et al(8) which shows 19.07% mortality, Rukmani et al(10) showed out of 396 PICU admissions, 27(7.07%) died, mortality of 6.7% and 16.7% recorded in India by Khilnani et al(15) and Bellad et al(16) respectively. Study by Batista et al(9) showed 514 (84.4%) patients were discharged from the unit and 95 (15.6%) died.

CONCLUSION

The occurrence of disease critical enough to warrant PICU admission, was maximum in infancy and involving respiratory system. Most of patients who need PICU care

were directly admitted in PICU. Most of patients who expired were of respiratory system involvement.

Important factors that may have contributed to survival in these patients include adequate manpower and equipment and provision of continuous medical education on pediatric critical care from time to time for staff by the institution.

The reasons behind the association between admission source and fatal outcome are still unclear. In the present study, we found that mortality was higher among patients with comorbidities, regardless of source of admission. Prevalence of comorbidities was similar among patients originating from wards when compared with those transferred from OR; however, mortality was significantly higher among the former. The underlying hypothesis is that, unlike OR patients, certain patients transferred from wards would also have severe comorbidities refractory to treatment and/or acute diseases with poor response to routine treatment. Furthermore, these patients are also more likely to have had prior prolonged stays, favouring colonization and infection by resistant microorganisms, which, in patients weakened by comorbidities and prolonged hospital admission, could result in unfavourable progression.

In addition, indication for PICU admission depends on the clinical judgment of the hospital team. It is possible that the team responsible for the patients in the wards may eventually delay shifting them to the PICU while they are

clinically deteriorating. This potential delay in transferring a patient to intensive care in more severe scenarios may be related to worse prognosis. On the other hand, we cannot exclude the hypothesis that patients admitted to the wards with complex diseases and poor prognosis may have been admitted to the PICU, where they subsequently died. Compared with all other patients, those admitted from wards had more oncologic/hematologic, neurologic, multiple, gastroenterological/hepatic and genetic comorbidities. Another factor that may be associated with PICU admission of patients with poor prognosis is the difficulty medical teams may have in adopting only palliative, rather than curative, therapy.

ABBREVIATION

PICU	Paediatric intensive care unit
MODS	Multiple Organ Dysfunction Syndrome
IAP	Indian Academy of Paediatrics
ALTB	Acute Laryngotracheobronchitis
CVS	Cardio Vascular System
CNS	Central Nervous System
GIT	Gastro Intestinal System
HRAD	Hyper Reactive Airway Disease
OR	Operation Room

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ORIGINAL ARTICLE

"Hearing results of ossicular chain reconstruction with cartilage in type III tympanoplasty in tubotympanic disease"

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KEY WORDS : Tympanoplasty, minor columella, cartilages

ABSTRACT

This article is to evaluate the functional and hearing outcomes using different cartilages for ossicular chain reconstruction in cases of tubotympanic disease where type III tympanoplasty (minor columella) with canal wall up mastoidectomy is done.

The retrospective study is performed at tertiary referral institute which included 30 patients with tympanic membrane perforations requiring tympanic membrane and ossicular chain (type III) reconstruction. Patients with disease extending beyond the aditus requiring canal wall down mastoidectomy were excluded. Ossicular chain reconstruction was performed using different cartilages like tragal cartilage, conchal cartilage or homologous septal spur cartilage.

Patients were assessed by comparing pre operative air bone gap (ABG) with post operative air bone gap (ABG) and thus hearing improvement was assessed at the end of 12 weeks.

Abbreviations:

CSOM: Chronic suppurative otitis media - OCR: Ossicular chain reconstruction

ETF: Eustachian tube function ABG: Air bone gap

INTRODUCTION

Chronic suppurative otitis media is worldily prevalent disease with otorrhoea, hearing loss, otalgia. Chronic suppurative otitis media (CSOM) is of two types, tubotympanic (mucosal) and atticointral (squamous). CSOM tubotympanic type is the main indication for Tympanoplasty. It is a disease of the middle ear with a wide range of pathology affecting ossicular chain, mastoid air cell system, facial nerve and eustachian tube.

Tympanoplasty is defined as "an operation performed to eradicate disease in the middle ear and to reconstruct the hearing mechanism, without mastoid surgery, with or without tympanic membrane grafting." Tympanoplasty techniques for chronic otitis media were first developed in Germany and the temporalis fascia was first used by Heermann¹. The goals of a successful tympanoplasty procedure are creation of an intact and mobile tympanic membrane, mucosalized and aerated middle ear, and a mobile ossicular conductive apparatus. An intact ossicular chain is one of the most desirable attributes of a tympanoplasty procedure and represents the most favorable hearing outcome².

Since the fundamental principles of Tympanoplasty³ were introduced by Wullstein and Zollner, surgery of the ear has been directed towards the restoration of functional ear by ossicular chain reconstruction. Zollner and Wullstein provided a classification of Tympanoplasty that focused on the type of ossicular chain reconstruction (OCR) needed.

The five types of Tympanoplasty they described refer to the most lateral intact structure on which the conductive mechanism will be constructed.

Type I : perforation in tympanic membrane to be repaired with graft. All three ossicles to be present and mobile. Thus, OCR is not needed.

Type II : defective or absent handle of malleus but intact incus and stapes. Graft kept to an intact incus and stapes.

Type II a: necrosis of handle of malleus,, graft kept over remnant malleus and long process of incus

Type II b: malleus and stapes assembly(incus transposition), joining handle of malleus with head of stapes

Type II c: reconstruction between head of stapes and tympanic membrane

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Type III: malleus and incus are absent. Intact mobile stapes superstructure is present and the tympanic membrane or graft remains directly on the stapes superstructure. (Columella effect)

Type IV: describes an absent or eroded superstructure of stapes with mobile stapes footplate, exteriorized with reconstruction of tympanic membrane as a round window baffle.

(Baffle effect)

Type V: stapes footplate is fixed but round window is functioning. Another window is created on horizontal semicircular canal and covered with a graft. (Fenestration operation)

Modified Wullstein classification has been introduced⁴

Type I: repair of tympanic membrane without altering ossicular chain

Type II: repair of ossicular chain with restoration of lever mechanism

Type III: has 3 other subtypes

Minor columella – reconstructive material kept between stapes head and graft

Major columella – reconstructive material kept between stapes footplate and graft

Stapes columella – graft directly on stapes head

Type IV: mobile stapes footplate directly exposed to incoming sound from ear canal, graft placed to shield the round window

Type Va: fenestration of horizontal semicircular canal

Type Vb: fixed stapes footplate removed, oval window sealed by tissue graft

Certain conditions, however, mandate a type III ossicular reconstruction due to ossicular erosion (resorptive osteitis, cholesteatoma induced, granulations around ossicular chain) or ossicular disarticulation and removal for epitympanic disease clearance⁵. This can be associated with poorer hearing outcomes due to the primary pathology itself or the less than optimal prosthesis designs, materials and implant extrusions^{6,7}.

The use of cartilage in the middle ear has been suggested for use on a limited basis to manage retraction pockets for many years⁸. It has been shown that cartilage is well tolerated by the middle ear, and long-term survival is the norm. Jansen⁹ found autologous tragal cartilage and autologous or preserved allogenic nasal septal cartilage suitable for tympanic membrane to stapes head interposition

This prospective and observational study is focused on tubotympanic type of CSOM in which modified type III

Tympanoplasty with minor columella and reconstruction of the tympanic membrane done and analyses the audiometric pattern of hearing loss in CSOM patients undergoing Tympanoplasty pre-operatively, and assess the outcome of the surgery in terms of improvement in hearing after 3 months later postoperatively. For the reconstruction of the functioning ossicular chain we used different types of cartilages. We commonly used tragal cartilage, conchal cartilage or homologous nasal septal spur cartilage. Homologous septal spur cartilage had been harvested from nasal surgery and preserved in 70% ethyl alcohol from patients with all serological test for transferable diseases were negative.

AIMS AND OBJECTIVES:

To evaluate the functional and hearing outcomes using different cartilages for ossicular chain reconstruction in tubotympanic disease type III tympanoplasty (minor columella) with canal wall up mastoidectomy

MATERIAL AND METHODS:

This is a prospective study to assess the result of surgical treatment of tubotympanic type CSOM with type III tympanoplasty with minor columella with canal wall up mastoidectomy. The study is also done to assess the result of hearing improvement after ossicular chain reconstruction with cartilage over stapes head. Adult, pediatric and revision cases were included and patients with epithelium/cholesteatoma requiring canal wall down mastoidectomy were excluded from the study. The procedure to be performed was explained to the patients and their relatives and written informed consent was taken.

All the patients with discharging ear were treated conservatively first using antibiotics, antihistaminics and topical ear drops. Nasal endoscopy had been done to rule out any nasal or nasopharyngeal pathology.

Pre operative assessment of status of ear before surgery, ETF, type of hearing loss were done and recorded.

Detailed history, clinical and otomicroscopic examinations were carried out after taking informed written consent of patients. X ray of both mastoids in Schuller's view in all patients were done.

Pre operative pure tone audiometry was carried out in 1 week or less before surgery on OPD basis. The hearing was tested at frequencies 500Hz, 1000 Hz, 2000Hz, 4000Hz. The air conduction threshold and bone conduction threshold averages were calculated. The air bone gap (ABG) was calculated taking differences between air conduction and bone conduction threshold.

Once a dry ear was achieved the patient underwent tympanoplasty with canal wall up mastoidectomy. All the

surgeries were done in general anaesthesia. After clearing the disease

from the middle ear and mastoid, the status of ossicular chain was assessed. Type of tympanoplasty procedure was planned according to the status of the middle ear and ossicular chain.

In all cases we found that there was no continuity between incus and stapes or just a fibrous band between eroded incus and stapes with absent of round window reflex. In all cases tympanoplasty with canal wall up mastoidectomy with ossicular chain reconstruction was performed in one stage by post aural incision. Temporalis fascia was used as a graft material for tympanic membrane reconstruction.

We had used tragal cartilage, conchal cartilage or homologous nasal septal spur cartilage for ossicular chain reconstruction. We kept one of this cartilage kept over stapes head and round window reflex was check for ossicular chain continuity. Temporalis fascia graft was kept over this assembly supported with antibiotic soaked gelfoam.

The allograft septal spur cartilage is a firm cartilage and does not undergo softening post-operatively over long term. It is shaped using a 15 number blade such that the length is enough to just protrude through the neotympanic membrane. The superior contact surface of the cartilage should be sloping, have enough contact area (at least 5 sq.mm) and the margins should be smooth so that there are no sharp edges against the tympanic membrane. The inferior portion of cartilage is drilled using 0.6mm diamond burr to form a socket for stapes head stapedius tendon and a slit is designed using 11 number blade for stapedius tendon¹⁰.

Homologous nasal cartilage with facet for stapedius tendon over stapes head



From conchal cartilage, strip is cut and at one end of strip, small socket is made to accommodate stapes head. Other end of cartilage strip is kept in groove made near tympanic sulcus lateral to annulus. TFG kept over this assembly.

Sometime for tragal cartilage, palisades technique is used. After putting the single piece of tragal cartilage as

describe above for chonchal cartilage, other similar pieces were kept above and below it to support it.

Patients were followed up post operatively on 7th day for stitch removal and after 3 weeks, 2 months and 3 months for assessment of graft uptake. Post operative pure tone audiometric thresholds for air conduction and for bone conduction were recorded on 12th week. Post operative ABG was calculated. Hearing improvement was calculated by pre operative and post operative ABG evaluation.

OBSERVATION

In present study, 30 patients were included. There were total 23 females and 7 males. In which 9 patients had bilateral perforation while 21 had unilateral perforation, in which 12 patients were operated on right side and 18 patients were operated on left side. All 30 patients had complain of ear discharge from affected ear, 22 patients had complain of decrease hearing, 19 patients had complain of earache and 2 patients had complain of ringing in ear. No patient had complain of giddiness and facial deviation.

Table I. Distribution of patients according to age group (in years)

Age group(yrs)	No of patients
0-10	0
11-20	10(33.33%)
21-30	12(40%)
31-40	6(20%)
41-50	2(6.67%)
>50	0

Table II. Pre operative hearing threshold.

Pre operative ABG (db)	No of patients
25-30	2
30-35	2
36-40	3
41-45	9
46-50	7
>50	7

In 30 patients average mean preoperative AC threshold was 54.375(\pm 11.31) dB and mean post-operative AC threshold was 40.66(\pm 13.09) dB. Mean pre-operative BC was 9.875(\pm 7.03) dB and mean post-operative BC was 9.95(\pm 7.32) dB. The mean pre-operative Air Bone Gap was 44.91(\pm 8.49) dB and postoperative air bone gap was

30.70(±9.90) dB. The mean air bone gap closure was 14.20(±9.58). This hearing gain was statistically highly significant ($p < 0.001$).

Table III : Post operative ABG gain.

Post operative ABG gain (db)(Hearing gain)	No of patients
0-10	12
11-15	7
16-20	5
21-25	1
26-30	3
31-35	1
>35	1

Out of 30 patients, we used tragal cartilage in 11 patients, conchal cartilage in 4 patients, while homologous nasal septal spur cartilages in 15 patients. In tragal cartilage use we had mean ABG improvement of 14.09 ± 0.74 db while in conchal cartilage mean ABG improvement is 17.18 ± 14.00 db while in septal cartilage mean ABG improvement is 13.5 ± 8.85 db. All this hearing improvement is statistically highly significant.

Table IV. Overall hearing improvement

Hearing improvement	No of patients
0-25 (normal range)	11
26-40 (mild deafness)	19

Out of 30 patients, pre operatively 1 patient had mild hearing loss while 1 patient had severe hearing loss and rest 28 patients had moderate hearing loss. After tympanoplasty type III with ossicular chain reconstruction with cartilage, 11 patients had hearing within normal limit while 19 patients had mild hearing loss.

DISCUSSION

The primary goal of surgery of COM is the achievement of a safe, dry ear and hearing improvement. Ossicular chain reconstruction has always been a challenge in disease involving incus and stapes. The ideal prosthesis for ossiculoplasty should be bio-compatible with surrounding tissue, stable, cost effective, capable of optimal sound transmission, easy to harvest and easy to handle during surgery.

Comparative study on outcome of ossiculoplasty using different materials in different ossicular status of middle ear had already been done by various authors previously.

Goode and Nishihara¹⁴ reported that the "ideal" ossiculoplasty should have the following characteristics: prosthesis mass < 40mg; proper tension of the prosthesis; angle between tympanic membrane and stapes < 45°, prosthesis with head angulated at about 30° to increase the surface area connected to the tympanic membrane.

Many materials have been proposed to restore sound transmission in case of lysis or absence of incus with intact stapes. Current techniques tend to use biocompatible materials: mastoid cortical bone, incus transposition, hydroxyapatite partial ossicular replacement prosthesis (PORP), titanium PORP and also autologous or homologous cartilage graft. The biocompatibility of ossicular prosthesis now appears to have been improved but their cost still remains a problem. So we decided to use autologous or homologous cartilages.

Similar study has been done by Solamaz¹¹ and group for perichondrium attached cartilage island graft in tympanoplasty with tragal cartilage. In their study, pre operative mean ABG was 56.58 ± 10.27 dB HL and post operative mean ABG was 44.84 ± 12.45 dB HL in type III tympanoplasty with tragal cartilage while in our study we had pre operative mean ABG $44.91 (\pm 8.49)$ dB and postoperative air bone gap was $30.70 (\pm 9.90)$ dB, which was significant.

Guner¹² reported a mean gain of 20 dB (64%) in a retrospective clinical study presenting their experience with cartilage grafts in ear surgery while we had 55% patient with mean gain of 15db or more; postoperative hearing levels were improved in all type III tympanoplasties with ossicular reconstruction with canal wall up mastoidectomies.

Similar study is also done by Masahiro Okada¹³ in which post operative mean ABG in 56 patients was 17.1 ± 6.9 dB HL by putting auricular cartilage in type III tympanoplasty.

Similar study is also done by Querat and group¹⁵ with mean pre operative ABG 23.6 ± 11.7 db HL operated with tragal or conchal cartilage over stapes head. Mean post operative ABG is 18.8 ± 14.1 db HL.

We analyzed the hearing results after 3 months of surgery. It was generally accepted that short term results would be better than long term results in ossiculoplasties and absorption and / or extrusion of ossiculoplasty materials were among the reason cited.

CONCLUSION

Tympanoplasty is a beneficial procedure for hearing improvement and the eradication of the disease but ossicular reconstruction still presents challenges. In our study we had a remarkable improvement of hearing

after various cartilages used in type III tympanoplasty with canal wall up mastoidectomy. Ossiculoplasty with different cartilages over stapes head has good outcome in hearing. Postoperative PTA-ABG results demonstrated a significant improvement in our study for cartilage use in ossicular chain reconstruction.

Obvious limitations of the present study include its relatively small sample size. More research with a larger sample size and longer follow-up would certainly shed more light on the subject.

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ORIGINAL ARTICLE

A Clinical Study : Role of Flexible Fiberoptic Bronchoscopic Biopsy in Diagnosis of Lung Cancer

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KEY WORDS : Flexible Fiberoptic Bronchoscopy, Lung Cancer

ABSTRACT

Fiberoptic bronchoscopy is very safe and highly sensitive investigation for patients suspected of having lung cancer. It allows one to visualize the tracheobronchial tree and perform a variety of diagnostic and therapeutic procedures. **Aim & Objectives** : To study the clinical profile of patients suspected of having lung cancer, the etiological factors, the complications and safety of the procedure & diagnostic yield of the procedure. **Materials & Method**: This is a prospective study conducted in the Pulmonary Medicine Department of B. J. Medical College and Civil Hospital, Ahmedabad from November 2015 to December 2016. We performed flexible bronchoscopy and took biopsy for histopathological examination along with BAL and Endobronchial Brushings in 44 patients suspected of lung cancer after through clinical examination and investigations. **Observation & Conclusion**: Out of 44 patients 40 were diagnosed lung cancer with histopathological confirmation by bronchoscopy while rest 4 patients were diagnosed with CT guided biopsy. Yield of bronchoscopic biopsy is 90.91%, of BAL is 20.45% and of brushings is 70%. Adenocarcinoma is the most common type (50%). Only 4.54% patients developed complications. Mortality is 0%. Thus flexible fiberoptic bronchoscopy is very safe procedure.

INTRODUCTION

Fiberoptic bronchoscopy is very safe and highly sensitive investigation for patients suspected of having lung cancer. It is performed in the bronchoscopy room or suit, under local anaesthesia and conscious sedation, with routine cardiorespiratory monitoring but without endotracheal intubation, mechanical ventilation or general anaesthesia. It allows one to visualize the tracheobronchial tree and perform a variety of diagnostic and therapeutic procedures i.e broncho alveolar lavage, transbronchial needle aspiration, endobronchial lung biopsy, endobronchial brushings and transbronchial lung biopsy. In the present study, we describe our experience with the fiberoptic bronchoscopy and biopsy for diagnostic purposes.

AIMS AND OBJECTIVES

To study the clinical profile of patients suspected of having lung cancer, the etiological factors, the radiological manifestations, the complications and safety of the procedure & diagnostic yield of the procedure.

MATERIALS AND METHODS

This is a prospective study conducted in the Pulmonary Medicine Department of B. J. Medical College and Civil Hospital, Ahmedabad from November 2015 to December 2016. After through clinical examination and investigations we performed flexible bronchoscopy and took biopsy for histopathological examination along with BAL and Endobronchial Brushings in 44 patients having

symptoms highly suggestive of lung cancer i.e. hemoptysis, clubbing and chest x-ray or CT evidence of obstructive airway lesion or mass lesion.

The patient was kept nil by mouth for 3 hours. In cases of COPD and asthma they were given nebulisation with levosalbutamol 1.25mg (2-4ml) and ipratropium bromide 500ug (2-4ml), 15-20 min prior to bronchoscopy. Intramuscular atropine was given as anticholinergic to reduce airway secretions, prevent vasovagal reactions & reduce reflex bronchoconstriction whenever appropriate. As anesthetic agent nasal jelly of 2% lignocaine and 10% lidocaine spray (10 mg per actuation, usually two to five actuations) as oropharyngeal topical anaesthesia were used. Intravenous Midazolam was given to the patient to maintain conscious sedation (maximum up to 10 mg).

The patient was in supine position with continuous pulse oximetry and heart-rate monitoring. 'Spray-as-you-go' delivery was used to administer lidocaine to the larynx and lower airways. Full examination of tracheobronchial tree was done and bronchoalveolar lavage, endobronchial brushings and endobronchial or transbronchial biopsies were taken. For biopsy open cup forceps with/without spike were used and at least 5 samples were taken. Biopsy samples were immediately fixed with 10% neutral buffered formalin. Endobronchial brush slide were fixed with 95% ethanol or 100% methanol. The final diagnosis was made in light of histopathologic examinations with all the previous investigations.

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OBSERVATIONS

Age & Gender:

Age (Yrs)	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total
Patients	1	3	9	13	13	4	1	44

Most common age of presentation is 51 to 70 years. Patients less than 40 years of age are few. The average age is 57.88 years. 37 (84.09%) patients were male and 7 (15.91%) were female.

Symptomatology:

Symptoms	Patients
Cough	39
Hemoptysis	7
Dyspnoea	22
Chest pain	30
Fever	10
Clubbing	16
Anorexia	17
Weight loss	10
SVC obstruction	2

Duration (Months)	Patients
1	10
2	11
3	6
4	3
5	4
6 - 12	10
Total	44

Cough is the most common symptom (88.64%). Chest pain is second most common (68.18%). Signs and symptoms related to SVC obstruction i.e. facial swelling & prominent neck veins are rarest (4.55%). Most (27) (61.36%) presented within 3 months of symptoms.

Smoking:

Pack Years	0-5	6-10	11-15	16-20	21-25	26-30	>30	Total
Patients	2	4	8	8	3	4	1	30

30 (68.18%) patients were smokers, all were male.

Bronchoscopic Findings:

Findings	Patients	Percent
Endobronchial lesion	31	70.45
Mucosal abnormalities	10	22.73
Constricted airway	9	20.45
Mucoid/mucopus secretions	3	6.82
Normal	1	2.27

As seen endobronchial lesion is most common finding(62%). Mucosal abnormalities (20%) and constricted airway (18%) are other common findings.

Histopathological Diagnosis:

Diagnosis	Patients		
	Biopsy	BAL	Brushings
Adenocarcinoma	19(43.18%)	4(9.09%)	2(20%)
Squamous cell ca.	16(36.36%)	2(4.55%)	1(10%)
Small cell ca.	2(4.55%)	0	0
Large cell ca.	1(2.27%)	0	0
Carcinoid tumor	1(2.27%)	0	0
Metastatic ca.	1(2.27%)	0	0
Atypical Cells	0	2 (4.55%)*	4(40%)*
Undiagnosed	4(9.09%)	36(81.82%)	3(30%)
Total	44(100%)	44(100%)	10(100%)

In biopsy Adenocarcinoma is the most common cancer (43.18%) followed by Squamous cell carcinoma (36.36%). BAL fluid analysis yielded useful information in only 20.45% patients. Brushings were taken in only 10 patients out of which 7 provided useful information.*BAL & brush showing atypical cells but not diagnostic of any particular subtype.

Comparison of yield:

Procedure	Biopsy	Brushings	BAL
Yield	90.91%	70%	18.18%

Thus yield of bronchoscopic biopsy is highest (90.91%) in all investigations.

CT guided biopsy:

All the four undiagnosed case were confirmed malignant by CT guided biopsy. 3 were peripherally located adenocarcinoma while 1 was centrally located squamous cell carcinoma.

Cancer Types according to Gender:

Type	Male	Female	Total
Adenocarcinoma	18	4	22
Squamous Cell Ca.	15	1	16
Small Cell Ca.	2	1	3
Other	2	1	3
Total	37	7	44

As seen both in male and female patients adenocarcinoma is the most common cancer accounting for 50% of cases.

Cancer Type according to Smoking:

Type	Smoker	Non-smoker	Total
Adenoca.	12	10	22
Squamous Cell	15	1	16
Small Cell	2	1	3
Other	1	2	3
Total	30	14	44

Squamous cell carcinoma is more common in smokers (50%) while adenocarcinoma is more common in non-smokers (71.43%). 85.71% of the female patients has exposure to bio-mass fumes. Only non-exposed female had adenocarcinoma.

Cancer Types based on Location:

Types	Adenoca.	Squamous Cell Ca.	Small Cell Ca.	Other	Total
Central	6	15	3	2	26
Peripheral	16	1	0	1	18
Total	22	16	3	3	44

As described Squamous cell carcinoma is the most common (57.69%) centrally located cancer while Adenocarcinoma is most common (88.89%) in periphery.

Complications:

Only two patients had complications. Hemoptysis was mild and was controlled easily. Only one patient had dyspnea but was relieved within short time. There was zero mortality.

DISCUSSION

The sensitivity for endobronchial lesion is high, especially for biopsies and brushings. The sensitivity is lower for peripheral lesions, in which cytobrushing shows the highest sensitivity, followed by transbronchial biopsies and BAL washings. Flexible bronchoscopy has

a poor sensitivity for peripheral lesions <2cm in diameter. The sensitivities of CT guided biopsy is excellent especially for peripheral lesions but there is a trend toward lower sensitivity for smaller lesions (<2cm in diameter). Studies using CT guidance had a significantly higher sensitivity than those using fluoroscopy guidance. The data on safety of the flexible bronchoscopy available in some studies suggests that it is a very safe procedure. Although false positive diagnoses are rare, non-diagnostic results are not uncommon.

Age Profile:

Author	Average Age
Cohen & Saha	53 years
Guleria et al	57.2 years
Jindal & Behera	54.3 years
CM Shetty	60.5 years
Present study	57.88 years

Previously lung cancer occurred in middle aged male but now it is also seen in females as well. Average age is 57.88 years. Lung cancer below age of 40 years is rare. In my study 9% were below the age of 40 years. The reason for this age of presentation is mainly increased prevalence of tobacco smoking.

Gender Profile:

Author	Patients	Male	Female	Ratio
Cohen et al	417	383 (91.8%)	34 (8.1%)	11:1
Guleria et al	120	106 (88.3%)	14 (11.6%)	7.6:1
Chhajed PN	73	59 (81%)	14 (19%)	4.2:1
Prasad	400	324 (81%)	75 (19%)	4.3:1
Solanki et al	50	41 (82%)	9 (18%)	4.6:1
Present Study	44	37 (84.09%)	7 (15.91%)	5.1:1

Lung cancer is predominant in males but my study also shows increased rate in females. The higher incidence in males is due to greater habit of smoking and greater exposure to industrial carcinogenic agents. The increasing rates in females are probably due to increased habit of smoking in female population.

Smoking Profile:

Author	Total Cases	Smokers
CM Shetty	81 (100%)	75 (93.0%)
Gupta et al	279 (100%)	227 (81.6%)
Prasad	400 (100%)	284 (71.0%)
Solanki et al	50 (100%)	42 (84.0%)
Present Study	44 (100%)	30 (68.18%)

Smokers have a high risk as compare to non-smokers and direct correlation has been found between cumulative dose of exposure and risk as well as reversal of risk following cessation of smoking. Even after 30 years, risk remains higher for ex-smokers compared to non-smokers or never smokers. In present study 30 out of 44 cancer patients were smokers.

Symptomatology:

Symptoms	Cohen et al	Guleria et al	Shetty	Present Study
Chest Pain	76.0%	42.0%	35.0%	68.18%
Cough	78.0%	46.0%	55.5%	88.64%
Dyspnoea	22.0%	48.0%	43.2%	50.0%
Haemoptysis	37.0%	48.0%	35.8%	15.91%
Anorexia & Weight Loss	44.0%	50.0%	82.0%	38.64%

The average duration before consultation is 4 months. Cough, chest pain and dyspnoea are common. Dyspnea is usually due to associated COPD, collapse, tumor, consolidation and pleural effusion. Cough is productive as most have COPD with secondary infection. An ill-defined, intermittent, aching chest pain is also seen.

Radiological Manifestations:

Study	Right Lung			Left Lung	
	Upper Lobe	Middle Lobe	Lower Lobe	Upper Lobe	Lower Lobe
ASY Taha et al	37.14%	11.43%	5.71%	42.86%	2.86%
Present Study	29.55%	13.64%	6.82%	34.09%	11.36%

Cancer involves both lungs equally though there is predominant upper lobe involvement.

Histological Pattern:

Author	Histology		
	Squamous	Adenoca.	Small cell
Shetty CM	44.4%	18.5%	17.2%
Gupta RC	42.0%	20.0%	18.0%
Prasad	46.5%	18.5%	18.2%
Noronha et al	26.2%	43.8%	8.0%
Present Study	36.36%	50%	6.8%

In old studies Squamous cell was the most common cancer. But in recent years adenocarcinoma has replaced it. This is seen in study done by Noronha et al and in the present study.

Complications:

Study	Complications	Mortality
Wladimir et al	1.7%	0.1%
De Blic et al	6.9%	0.0%
Present Study	4.0%	0.0%

Mortality rate is 0%. Thus flexible bronchoscopy is a very safe procedure.

Bronchoscopy yield and comparison of location:

Study	Bronchoscopy Positive			
	Squamous cell ca.		Adenocarcinoma	
	Central	Peripheral	Central	Peripheral
Solanki et al	23 (100.00%)	0	2 (66.67%)	1 (33.33%)
Mac et al	125 (87%)	14 (9.74%)	24 (44%)	30 (56%)
Present Study	15 (93.75%)	1 (6.25%)	6 (31.57%)	13 (68.42%)

Fiberoptic bronchoscopy is very sensitive for central tumors but not for peripheral.

Bronchoscopy Yield:

Study	Biopsy	BAL	Brushings
Liam et al	70.98%	31.1%	37.96%
K. Roth et al	60.70%	6.90%	23.00%
AB Fuladi et al	76.92%	70.76%	61.53%
V H Mak et al	62.77%	45.74%	44.15%
Present study	90.91%	18.18%	70.00%

In our study biopsy showed highest yield (90.91%). According to latest British thoracic society guidelines for fiberoptic bronchoscopy every bronchoscopy unit should try to bring yield above 80%.

SUMMARY

Most common age group is 51 to 60 years. The average age is 57.88 years. 8.09% are male and 15.91% are female. 68.18% patients had duration of symptoms below 4 months. Cough is most common symptom, present in 88.64%. 68.18% patients are smoker. 85.71% of the female cancer patients has exposure to bio-mass fuel fumes. Both lungs are similarly involved by cancer. Upper lobes are most commonly involved (63.64%). 59.09% have central lesion and 49.91% have peripheral

lesion. Endobronchial lesion is the most common (70.45%). In HPE of biopsy 90.91% patients were diagnosed cancer. Yield of bronchoscopic biopsy is 90.91%, of BAL is 18.18% and of brushings is 70%. 9.09% Undiagnosed cases which went under CT guided biopsy - 75% were peripherally located adenocarcinoma and 25% were centrally located small cell carcinoma. Adenocarcinoma is the most common type (50%). Squamous cell carcinoma is second most common type (36%). Adenocarcinoma is most common

peripherally located cancer - in 88.89% and squamous cell carcinoma is most common centrally located cancer - in 57.69%. Only 4.54% patients developed complications. Mortality is 0%. Thus flexible fiberoptic bronchoscopy is very safe procedure.

CONCLUSION

In patients having complains of cough, dyspnea, chest pain, hoarseness of voice, anorexia, weight loss and having symptoms of SVC obstruction with history of smoking and having parenchymal lesions on chest x-ray, lung cancer must be suspected. Flexible fiberoptic bronchoscopy with biopsy is very safe procedure for confirming the diagnosis with very high yield.

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ORIGINAL ARTICLE

Serum Homocysteine In Acute Ischaemic Cerebrovascular Stroke

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KEY WORDS : Homocysteine, Acute ischaemic cerebrovascular stroke, NIHSS Score

ABSTRACT

Background: There is evidence that high serum homocysteine is a poor prognostic factor in patients with acute ischaemic cerebrovascular stroke. Our study showed a close correlation of serum homocysteine and National Institutes Of Health Stroke Scale Score (NIHSS score) in patients of acute ischaemic cerebrovascular stroke.

Material and Methods: 50 indoor cases of acute ischemic cerebrovascular accidents were studied. All patients underwent serum homocysteine determination and the NIHSS score of all the patients at admission were calculated.

Results: Most patients with a better prognosis as determined by their lower NIHSS score had a lower serum homocysteine level, and most with a worse prognosis as per their higher NIHSS score and a higher serum homocysteine level.

Conclusion: Higher level of serum homocysteine is associated with a poorer short term prognosis. Thus, it may act as an indicator of short term prognosis in acute ischaemic cerebrovascular stroke.

INTRODUCTION

Homocysteine is a sulfhydryl-containing amino acid derived from the essential amino acid Methionine, which is abundant in animal sources of protein. The metabolic pathway that converts methionine to homocysteine is essential for the proper functioning of many biomolecules, including DNA, proteins, phospholipids, and neurotransmitter.

However, homocysteine also plays a major role in the causation of acute ischaemic cerebrovascular stroke.

EFFECTS OF HOMOCYSTEINE THAT MAY BE RELEVANT TO ATHEROGENESIS AND THROMBOGENESIS LEADING TO STROKE: 1-5

ATHEROGENESIS :

1. Induces DNA hypomethylation and expression of genes known to mediate cell growth and differentiation.
2. Induces oxidative stress.
3. Induces vascular inflammation by altering expression of tumor Necrosis factor – α and inducible Nitric Oxide (NO) synthase.
4. Induces endothelial dysfunction as a result of increased oxidative stress, decreased bioavailability

of Nitric Oxide (due to increased oxidative stress) and increased inflammation.

5. Alters hepatic and macrophage lipoprotein metabolism, in part by enhancing uptake of modified low density lipoprotein.
6. Induces hypertrophy and altered mechanics in the micro-circulation and increased intima media thickness.

THROMBOGENESIS:

1. Induced tissue factor expression in monocytes.
2. Modulates leukocyte endothelium interactions.
3. Increases platelets aggregation.
4. Enhance binding of lipoprotein (a) to fibrin.
5. Interferes with several clotting factors.

Thus, there seems to be a correlation between serum homocysteine level with the prognosis of acute ischemic stroke, as higher level is associated with a poorer prognosis in animal studies.

We did this study to note if there is any relationship between serum homocysteine level and the NIHSS score in patients of acute ischaemic cerebrovascular stroke.

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MATERIAL AND METHODS

In the present study, 50 indoor cases of ages more than 35 were studied who had acute ischemic cerebrovascular stroke within previous 72 hours as diagnosed by clinical examination and confirmed by either a CT Scan or by an MRI Scan.

Patients presenting with hemorrhagic stroke/ subarachnoid hemorrhage/ cerebral venous sinus thrombosis or presenting with ischemic stroke after 72 hours of onset were excluded. Also, Patients with other predisposing illnesses, other than classical risk factors for stroke (e.g. HT, DM, hyperlipidemia, IHD, previous TIA/ stroke) which may alter results of the study were excluded.

Detailed history of the patient included in the study was taken. They were asked in details about their symptoms, the onset, duration and progress of the same, as also associated other symptoms. They were specifically asked for symptoms of headache/ vomiting/ vertigo/ gait imbalance/ speech disturbances/ sensory symptoms/ visual complains among the other symptoms.

Past history regarding any illnesses was elicited. Especially history for risk factors for stroke, i.e. hypertension, diabetes, ischemic heart disease and previous TIA/stroke was asked as also about treatment of the same.

Complete nervous system examination was done systematically along with examination of the other systems like respiratory, cardiovascular, gastrointestinal and musculoskeletal systems. After that, clinical diagnosis was made.

The NIHSS score of all the patients at admission were calculated.

All patients underwent serum Homocysteine determination. In our study, a serum homocysteine level above 15µmol/L was considered as significant.

Patients also underwent the following investigations : Hb, TC, DC, Urine examination, RBS, FBS, PP2BS, S. Cholesterol, blood urea, serum creatinine, serum electrolytes, Liver function test, E.C.G., Fundus examination, C.T./ M.R.I. Scan examination, Lipid profile, X-ray chest PA view, 2D- ECHO, USG- KUB in certain cases.

RESULTS AND DATA ANALYSIS ⁶⁻¹²

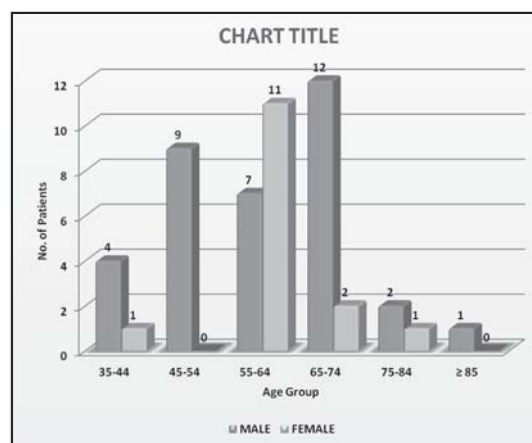
In the current study, most of the patients 36% were belonging to the age group 55-64 years, followed by 28% in 65-74 years, 18% in 45-54 years, 10% in 35-44 years, 6% in 75-84 years and 2% aged \geq 85 years. The

youngest patient was 35 years old, and the oldest patient was 85 years old. The mean age of the patients was 59.4 years. In the present study 70% of the patients were males and 30% were females. Males are more frequently affected than females. In the present series, the ratio is 2.3 : 1 in favour of males, which confirms to that of other workers. (Table I, and Chart I)

Table I : Age and Sex distribution in the study.

AGE GROUP	MALE No. of Patients	FEMALE No. of Patients	TOTAL
35-44	4	1	5
45-54	9	0	9
55-64	7	11	18
65-74	12	2	14
75-84	2	1	
\geq 85	1	0	1
TOTAL	35	15	50

Chart I : Age and Sex chart in the study



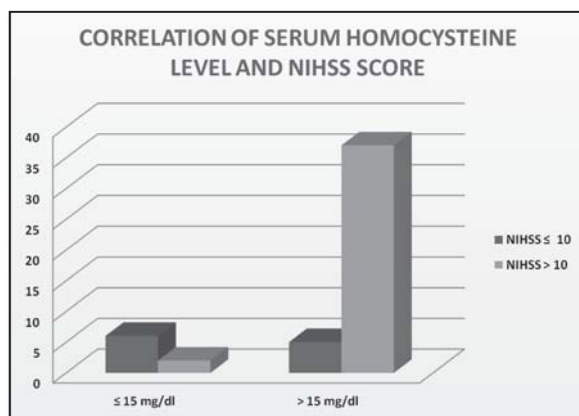
2 patients with NIHSS score more than 10 had their serum homocysteine less than or equal to 15.0 mg/dl, while 37 patients had it at serum homocysteine levels more than 15.0 mg/dl.

Likewise, 6 patients with NIHSS score less than 10 had their serum homocysteine less than 15.0 mg/dl, while only 5 patients had it at serum homocysteine levels more than 15.0 mg/dl. (Table II, and ChartII).

Table-II : Correlation of serum homocysteine and NIHSS score

Serum Total Homocysteine	NIHSS \leq 10	NIHSS $>$ 10	TOTAL
\leq 15 mg/dl	6	2	8
$>$ 15 mg/dl	5	37	42

Chart II : Correlation chart of serum homocysteine and NIHSS score



Thus, most patients with a better prognosis as determined by their lower NIHSS score had a lower serum homocysteine level, and most with a worse prognosis as per their higher NIHSS score and a higher serum homocysteine level.

The p value was < 0.001. Thus, there was a highly significant correlation between serum uric acid level and a better prognosis at the time of admission. This correlates with most of the previous studies. (Tables III and IV)

Table III : Mean homocysteine level in various other studies and current study.

STUDY	No. of Patients	Mean Total Homocysteine
Crudrun Boysen et al	1039	13.4
Narang et al	117	16.8
Kay sin TAN et al	83	13.5
Present study	50	32.9

Table IV: P values of various other studies and current study.

STUDY	P Valve	Significance
Cudrun Boysen et al	< 0.001	Highly Significant
Narang et al	< 0.01	Highly Significant
KAY- SIN TAN et al	< 0.001	Highly Significant
James F took et al	= 0.05	Significant
Present Study	<0.001	Highly Significant

Although no patient had died due to cerebrovascular stroke in this study, the patients with lower serum homocysteine levels were discharged earlier from the hospital as compared to the patients with higher serum homocysteine levels who were admitted for longer period.

CONCLUSION

Patients with a lower NIHSS score on admission, and thus a better prognosis, had lower levels of serum homocysteine and those with a higher NIHSS score had higher homocysteine levels.

P value < 0.001 (Highly Significant)

Our results thus indicate that higher levels of serum Homocysteine is associated with a poorer short term prognosis. Thus, it may act as an indicator of short term prognosis.

These results reinforce the available evidence, and point towards a potential therapeutic approach for patients presenting with acute ischemic cerebrovascular stroke, in the form of therapeutic correction of the Homocysteine and other interventions in a bid to improve the outcome for the patients. However, further studies are needed to confirm these findings on a larger scale, and a longer duration of follow-up.

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ORIGINAL ARTICLE

Study and Clinical Evaluation of 25 cases of Primary Amenorrhea

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KEY WORDS : Primary Amenorrhea, MRKH syndrome, imperforate hymen

ABSTRACT

Menstruation is the endpoint of a series of events which begin in the cerebral cortex and terminates at the uterine tissues in the HPO axis. Primary amenorrhea can be due to disorder of the outflow tract or uterine target organs

AIMS : The objective of this study is to note the various causes, complete clinical picture and the management in 25 such cases of Primary Amenorrhea. **SUBJECTS AND METHODS :** This is A Prospective study done in 25 cases. They were investigated, managed and patients were called up for follow up for their response to treatment.

RESULTS AND CONCLUSION : Out of 25 cases studied, maximum cases presented at 14-16 years of age, with chief complaint of primary amenorrhea, out of which 8% were married, 13 cases were of MRKH syndrome which was the most common cause of Primary Amenorrhea.

INTRODUCTION

Primary Amenorrhea is absence of menstruation and secondary sexual characters by age of 14 years or absence of menstruation regardless of secondary sexual characters by age of 16 years. Menstruation, also known as a 'period' or 'monthly', is a regular discharge of blood and tissue from the inner lining of the uterus through vagina⁽¹⁾. For a normal menstruation to occur the genetic make up, neuroendocrinological, embryological development is must. Any abnormality in above leads to amenorrhea. Menstruation marks the transition from a girl to a woman. It is the physical manifestation noticed of all pubertal changes and last to occur⁽²⁾. Incidence of Primary Amenorrhea is <1%. Development of female genital organs takes place from MULLERIAN DUCT (Paramesonephric Duct). Sexual development starts after 8 weeks. In absence of Y chromosome, functional testes and lack of AMH, Mullerian Duct develops and form uterus, fallopian tubes and upper vagina and at the same time in absence of testosterone, Formed from coelomic Epithelium. Hymen is formed by invagination of posterial wall of urogenital sinus and usually ruptures spontaneously in perinatal period. Menarche is the end of cascade of events occurring in puberty.⁽⁴⁾

Causes of primary amenorrhea can be classified according to WHO as:

1. HYPOGONADOTROPIC
HYPOGONADISM (Group I)

[decreased estrogen, normal or low FSH, and no lesion in hypothalamic-pituitary region]

- Physiologic Delay.
 - Kallman syndrome
 - CNS tumors
2. HYPERGONADOTROPIC
HYPOGONADISM (Group II)
[decreased estrogen, but raised FSH]
 3. DEVELOPMENT DEFECT OF
GENITAL TRACT (Group III)

OBJECTIVES

The objective of this study is to evaluate the age of presentation, presenting symptom, clinical findings of general and local examination, causes, outcome and management of 25 cases of primary Amenorrhea presented in Tertiary care hospital for a duration of 1 year from November 2016 to November 2017.

MATERIALS AND METHODS

This is a prospective study. A methodical, systemic approach was developed to achieve best diagnosis. Evaluation of primary Amenorrhea is designed to separate their productive system into its distinct structural components such as Genital outflow track, Uterus, Ovaries, Pituitary, Hypothalamus and to test functional integrity of each beginning at lowest level and

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progressing systemically to higher levels until the cause is determined. 25 Cases of primary Amenorrhea were studied in detail for following parameters-

- Age of presentation
- Presenting complaint
- Marital Status
- Past history of any medical illness
- Family History
- General Built (Height, weight, BMI and arm span)
- Presence of secondary sexual characters (according to Tanner's staging)
- Local examination (P/A, P/vulva, P/S, P/V)
- Hormonal profile (FSH, LH, Estrogen, AMH, TSH)
- Radiological investigations (USG, MRI)
- Special investigations (CT – IVP)
- Karyotyping

RESULTS

- Presenting age was in range from 11 to 25 years.

Table 1: Age distribution of Patients

Age	Percentage
11- 13 Years	6 (24%)
14- 16 Years	9 (36%)
17- 19 Years	4 (16%)
19- 21 Years	3 (12%)
> than 21 Years	3 (12%)

- Presenting Symptoms:

Table 2 : Presenting Symptoms

Symptom	Percentage
Primary Amenorrhea	13 (52%)
Cyclical abdominal pain	5 (20%)
Ambiguous Genitalia	3 (12%)
Urinary Retention	4 (16%)

- Out of 25 cases, 3 of the patients were married and 22 were unmarried.
- Causes of Primary Amenorrhea:

Table 3 : Causes

Causes	Percentage
MRKH Syndrome	13 (52%)
Imperforate Hymen	10 (40%)
Turner syndrome	1 (4%)
Uterus didelphus blind vagina	1 (4%)

- MRKH syndrome is the most common cause of Primary Amenorrhea in our Study i.e 52% . These patients had normal secondary sexual characters that was symmetric with age. They had normal Development of breasts which indicates normal ovarian function (6). All had normal karyotyping (46XX). MRI is gold standard to diagnose any congenital anomalies⁽³⁾. These patients were explained about their pathology and counseled regarding their menstrual and reproductive function. Primary goal of management in MRKH syndrome is creation of functional vagina. They were explained about vaginoplasty and were called for follow-up before 6 months of their marriage. MRKH syndrome is associated with renal, cardiac and skeletal malformations⁽⁷⁾. Thus all the cases of MRKH syndrome underwent USG KUB, 2D echo and X-ray spine. 16% of them were associated with abnormal USG KUB.

USG KUB	Percentage
Normal	7 (53%)
Horse shoe kidney	1 (0.7 %)
Fused Crossed Ectopic Kidney	1 (0.7%)
Absent Kidney	2 (0.15%)

- There were 7 cases of imperforate hymen, 5 presented with complaint of cyclical lower abdominal pain and 2 case with urinary retention. All of them had normal symmetrical secondary sexual characters and normal breast development indicating normal ovarian function. All the cases were managed surgically and 1 case with recurrent Hematometra and Hematocolpos, total hysterectomy was done, Ovaries were preserved
- Of 3 patients with transverse vaginal septum, both had resumed menses regularly post resection of septum and vaginoplasty.

- Patient with turner syndrome presented with c/o primary amenorrhea with short stature, shield chest (widely spaced nipples) with underdeveloped breast and absent pubic and axillary hairs (Tanner stage I). MRI pelvis suggested of 6X4 mm of hypoplastic uterus with absent ovaries. Karyotyping s/o mosaicism 45,x,(92)/46,x,i(x)(910)(8) , 92% of cell with XO and 8% of cells with XX. She was given withdrawal with Oral contraceptive pills (MALA-N) and since then patient is menstruating normally. 2D ECHO and USG KUB was normal .
- One patient had uterus didelphis with 2 separate cervix with two localized collection in vaginal fornix, right ovary 6x3 cm complex cyst, and blind vagina In this patient laprotomy was done to remove both uterus and vaginoplasty was done



CONCLUSION

Amenorrhea has got multifactorial etiology. For patients with Amenorrhea physical examination should focus on pubertal development and possible genital outflow obstruction. Mullerianagenesis (MRKH syndrome) was the most common cause of primary amenorrhea. Early surgery offered to patients may reduce patients suffering, help restore patients outflow tract and may preserve fertility in some cases. Research on mullerian anomalies is limited and further studies are needed. Out of 25 cases of Primary Amenorrhea, 52% had MRKH syndrome which was the most common cause of primary amenorrhea, 28% imperforate Hymen, 12% had transverse vaginal septum.

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ORIGINAL ARTICLE

A Clinico-Pathological Study of Anemias in Geriatric Age Group

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KEY WORDS : Normocytic Normochromic Anemia; Anemia of chronic disease, Elderly

ABSTRACT

INTRODUCTION : Anemia in the elderly is a major health problem in India and many parts of the world, since it signifies an underlying disease and is associated with poor clinical outcome like increased morbidity and poor health related quality of life. Since symptoms like fatigue or shortness of breath associated with anemia may be attributed to aging process, anemia can be easily overlooked in the elderly.

AIMS AND OBJECTIVES: Clinico-hematological patterns and morphological types of anemia in elderly are manifold, hence, this study was undertaken to determine them and to know associated disorders

MATERIALS AND METHODOLOGY : The present study was conducted on a sample size of 200 patients (A one year study) who were 60 years and above and clinically diagnosed as anemic. Routine haematological investigations including Peripheral Blood smear examination and Complete hemogram were done. Special investigations like Bone-marrow examination, Iron studies etc. were done whenever required.

RESULTS : Males were more affected than females and patients in the age group of 60-69 years were affected the most. The most common presenting symptom was generalized weakness. Normocytic Normochromic anemia was the most common morphological type and chronic diseases were the commonest etiological factors.

CONCLUSION : Despite modern diagnostic advances, geriatric anemias still remain under-reported and inadequately investigated, necessitating evaluation of even mild anemias. Prompt diagnosis and definite categorization helps in appropriate management of anemias.

INTRODUCTION

Anemia in the elderly is an extremely common problem that is associated with increased morbidity and poor health related quality of life.^[1] It is easy to overlook anemia in the elderly since symptoms like fatigue, weakness or shortness of breath may be attributed to aging process itself and should never be accepted as an inevitable consequence of aging. A progressive statistical increase in the number of elderly persons has been observed as a universal phenomenon.^[2] Thus, anemia in the elderly patients is an emerging global health problem for the 21st Century which negatively impacts the quality of life.^[2] Aging by itself is unlikely to cause anemia. Hemoglobin levels in the healthy older individuals do not change significantly from 60 to 98 years of age. Changes that occur commonly during aging, increase the risk of anemia, thus explaining the association of anemia with old age. These include reduced ability to absorb essential nutrients, decreased hematopoietic reserve and reduced sensitivity to erythropoietin.^[3]

OBJECTIVES

- To study the clinico-hematological patterns of anemia in the elderly patients 60 years and above.
- To detect the morphological types of anemia prevalent amongst them.
- To know common etiology for anemia.
- To know various associated disorders.

MATERIALS AND METHOD

The present study is a descriptive cross sectional study which was conducted in the Department of Pathology, P.D.U. Government Medical College, Rajkot over period of one year i.e. 1st August 2016 to 31st September 2017. All the indoor patients who were 60 years and above and clinically diagnosed as anaemic were included. Routine haematological investigations. Peripheral Blood smear examination using Field stain and Leishman stain, Complete hemogram. Special investigations like Iron studies, Reticulocyte count, Perl's

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Stain and bone-marrow examination etc. were done whenever required.

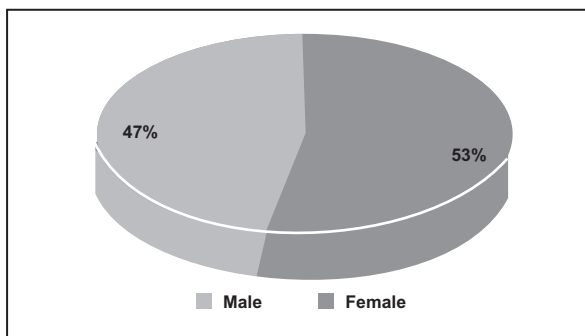
OBSERVATIONS AND ANALYSIS

Table 1 : Age wise distribution of Cases

Age group (years)	Total Number (n=200)	Percentage (100%)
60-65	120	60 %
66-70	34	17 %
71-75	20	10 %
76-80	13	6.5 %
81-85	9	4.5 %
85-90	4	2 %
Total	200	100 %

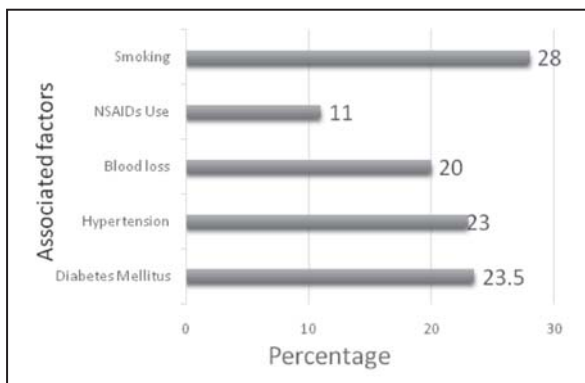
The above table indicates that, maximum number of subjects 154 were in the age group of 60-70years, 33 subjects in the age group of 71-70 years and 13 were subjects in the age group of 80 years and above.

Figure 1 : Pie diagram representing Gender wise distribution of Cases



The above figure show that, 53% subjects were males and 47 % were females in the present study.

Figure 2: Correlation with Associated Factors



In present study 28 % patient were smoker, 23% were with hypertension, 23.5 % were having Diabetes mellitus, 20 % with blood loss and 11 % were using NSAIDS

Table 2 : Relation with Symptoms and Sign

Associated factor	Total number n=200	Percentage (100%)
Respiratory	36	18 %
Gastrointestinal	30	15 %
Carcinomas	27	13.5 %
Nutritional disorders	26	13 %
Liver	14	7 %
Renal	13	6.5 %
Non specific	54	27 %
Total	200	100 %

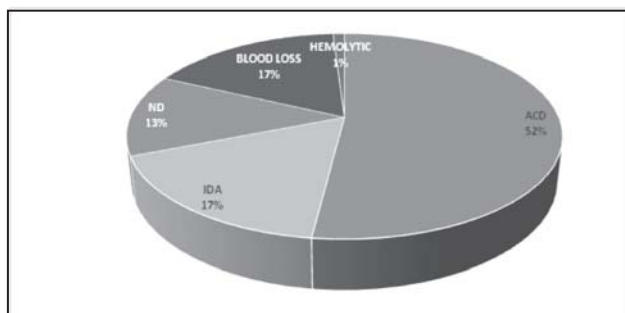
In this study, non-specific symptoms were most commonly associated with anemia, followed by symptoms and signs of Respiratory disease, gastro-intestinal diseases, carcinoma, nutritional disorders, liver and renal diseases.

Table 3 : Peripheral Blood Smear Patterns

Peripheral Blood Smear Findings	Total Number n=200	Percentage 100%
Normocytic Normochromic Anemia	90	45 %
Hypochromic Microcytic Anemia	60	30 %
Dimorphic Anemia	32	16 %
Normocytic		
Hypochromic Anemia	10	5 %
Macrocytic Anemia	8	4 %
Total	200	100 %

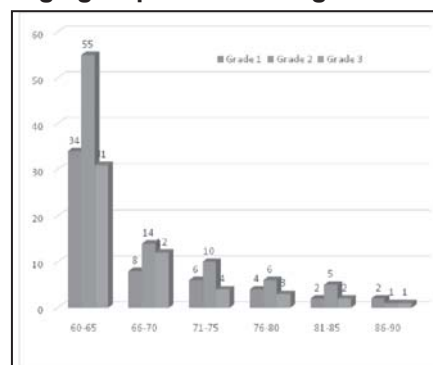
In the present study, we observed that, the most common morphological type of anemia was Normocytic normochromic (45%) followed by Hypochromic microcytic (30%), Dimorphic (16%), Normocytic hypochromic anemia (5%) and Macrocytic (4%) which was the least common.

Figure 3: Pie diagram representing causes of Anemia



We observed in the present study that, anemia due to chronic disease (52.%) was the most common type followed by Iron deficiency anemia (17%), anemia due to other nutritional deficiencies (13%), anemia due to blood loss and the least common was anemia due to hemolysis.(1%)

Figure 4: Age group wise Grading of Anemias



Above graph is showing that out of 200 patients 91 were having Grade 2

(moderate Anemia).

DISCUSSION

Table 4 : Comparative Study of Gender wise distribution of Geriatric Anemias

Gender	Present study (Rajkot) [2017] n=200	S.amarneel et al (Bhavnagar Gujarat) [2015] n=42	Wasim Khatib et al (karad, Maharashtra [2016] n=256	Ramya et al, (Puduchhery) [2016] n=675	Joosten et al (Belgium) [1992] n=178	Mathew Rongjie Tay et al. (Singapore) [2011] n=424
Male	53 %	28.6 %	53.9 %	51 %	38.8 %	48.6 %
Female	47 %	71.4 %	46 %	49 %	61.2 %	51.4 %

In the present study, more males were found to be anemic as compared to females. A similar gender wise distribution was noted in the study by Wasimkhatib et al^[5], Ramya et al^[6]. Study conducted by Bird et al in which 51 % were male 41 % females. Our result is differs from study done by S.Amarneel et al^[4], Joosten et al^[7], Mathew RongJie Tay et al^[8] in which Females were more anemic.

Table 5: Comparative Study of Maximally Affected Age Group

Age group (Years)	Present study (Rajkot, Gujarat) 2017 n=200	S.Amarneel et al. (Bhavnagar, Gujarat) 2015 n=42	Nisha TR et al (Kozhikode, Kerala) [2017] n=826	KiranAithal et al (Dharwad Karnataka) [2017] n=100	Tabea Geisel et al. (Germany) [2017] n=388
50-59	-	-	18.3 %	-	-
60-70	77 %	61.25 %	44 %	70 %	13.9 %
71-80	17 %	27.5 %	26.8 %	23 %	40.2 %
81-90	6 %	11.25 %	10.8 %	7 %	46 %

In the present study, patients in the age group of 60-70 years were maximally affected which is in concurrence with the study by S. Amarneel et al.

Nisha TR et al^[9], and Kiranaithal et al^[10] whereas, in a study done by Tabea Geisel et al^[11], patients in the age group of 80-90 years were maximally affect.

Table 6 : Comparative Study of contributory causes resulting in Anemia

Cause of Anemia	Present study (Rajkot, Gujarat) [2017] n=200	Nisha TR et al (Kozhikode Kerala) [2017] n=500	Guyatt et al. (Ontario, Canada) [1990] n=259	Joosten et al (Belgium) [1992] n=178	Mathew RongjieTay et al. (Singapore) [2011] n=424
Iron deficiency Anemia	17 %	12.2 %	36.3 %	15 %	13 %
Anemia of Chronic disease	52 %	48.9%	43.6 %	41.5 %	29.3 %
Nutritional anemia	13 %	6.9 %	8.10 %	5.5 %	13 %
Blood loss	17 %	8.5 %	-	7.0 %	-
Hematological malignancy	1 %	18.5 %	2.70 %	11 %	0.7 %
Others	1 %	5 %	9.3 %	20 %	44 %

In the present study, most common underlying cause of anemia is anemia of chronic disease, This finding is in concurrence with the study by Guyatt et al^[12], Nisha TR et al and Joosten et al in which, chronic disease was maximally responsible for anemia followed by iron deficiency anemia.. In hematological malignancy Chronic myeloid leukemia was present in 4(0.8 %) subjects in present study, correlates with KiranAithal et al in which 1% was noted. Chronic leukemia and lympho-proliferative disorder was noted in 0.4 % which is differs from the study conducted by Nish TR et al having 9.7 % and Vijay Tailak et al 70having 2.2 % of Chronic leukemia and lympho-proliferative disorder. In present study Myelodysplastic syndrome is present in 2 (0.4%) subjects concurrent with study done by Vijay Tailak et al^[13] having 1.4% of subjects with Myelodysplastic syndrome.

Table 7 : Comparative Study of Grading of Anemia

Grade of Anemia	Present study (Rajkot, Gujarat) [2017] n=200	Nisha TR et al (Kozhikode, Kerala) [2017] n=826	Suma J.K. et al (Mysore) [2013] n=114	Ramya et al, (Puducherry) [2016] n=675	Joosten et al (Belgium) [1992] n=178
Mild (10-12gm/dl)	28 %	68.8 %	19.29 %	80.9 %	29.2 %
Moderate(7-10 gm/dl)	46 %	26.3 %	16.7 %	16.7 %	57.9 %
Severe (<7 gm/dl)	26 %	4.9 %	2.4 %	2.4 %	12.9 %

In the present study, highest number of the subjects are with moderate degree (Grade II) of anemia. This finding is in concurrence with the study by Suma J.K. et al and Joosten et al.

Our result differs from the study conducted by Nish TR et al, Ramya et al, in which majority of elderly were having mild anemia(Grade I).

Table 8: Comparative Study of Associated Co-morbidities

Associated Comorbidities	Present study (Rajkot Gujarat) [2017] n=130	Suma J.K. et al (Maysore) [2013] n=33	KiranAithal et al (Dharwad Karnataka) [2017] n =100	Mathew RongjieTay et al. (Singapore) [2011] n=23	Tabea Geisel et al (Germany) [2017] n=83
GI Disorder	23 %	18.2 %	-	8.69 %	15.66
Liver	11 %	6.0 %	20 %	21.73 %	-
Renal	10 %	12 %	50 %	-	56.6 %
Respiratory	28 %	36.4 %	17.5 %	34.8 %	-
Carcinoma	20 %	15.2 %	-	34.8 %	12.04
Arthritis	8 %	12.1 %	12.5	-	15.7

In present study Respiratory Disease is associated in most of the subjects (28.13 %) which correlates with study conducted by Suma J.K. et al (36.4%) and Mathew Rongjie Tay (34.8 %), next common condition associated was Gastro intestinal disorder. In hematological malignancy Chronic myeloid leukemia was present in 4 (0.8 %) subjects in present study, correlates with Kiran Aithal et al 68 in which 1% was noted. Chronic leukemia and lympho-proliferative disorder was noted in 0.4 % which differs from the study conducted by Nish TR et al having 9.7 % and Vijay Tailak et al 70 having 2.2 % of Chronic leukemia and lympho-proliferative disorder. Myelodysplastic syndrome is present in 2 (0.4%) subjects concurrent with study done by Vijay Tailak et al et al having 1.4% of subjects with Myelodysplastic syndrome

CONCLUSION

Despite the modern diagnostic advances, geriatric anemia still remain under-reported and inadequately investigated, especially when mild, thereby necessitating evaluation of even mild anemias in this vulnerable population. Non specific symptoms like fatigue and weakness should not be ignored attributing it to normal aging process as it can be important signal to presence of anemia. Improved definitions of anemia and more detailed investigations like bone marrow aspiration and biopsy also help to define the subtypes of anemia, thereby facilitating prompt and accurate diagnosis to ensure appropriate patient management.

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ORIGINAL ARTICLE

Pre-Operative concerns of a patient in a Rural setup :RURAL SETUP: An Indian Perspective

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KEY WORDS : Pre-operative concerns, Rural Setup, Counseling

ABSTRACT

Objective : To identify and appraise the concerns different patients have prior to undergoing surgery in a rural set up. **Method :** In this prospective survey, 207 patients completed a questionnaire regarding their concerns prior to undergoing surgery. Patients responded by answering the questions and sharing their concerns and fears. The study was conducted over a period of one year (2016 – 2017). **Results :** Patient population consisted of 207 consenting adults undergoing elective major and minor surgery in a rural setup. Patients included 149 men, 57 women and 1 newborn. The male:female ratio being 2.6:1.0. The age of the patients ranged from 10 years to 75 years. 150 patients were scheduled to undergo urological procedures, and remaining 57 were to undergo gastro intestinal surgeries. Out of all the concerns listed, 35.27% of the total patients who were also found to be unskilled laborers had foremost concern regarding the hospital and medical expenses. The female patients had soaring apprehensions about their family, children and other household works (24.64%). 18.36% patients confirmed having issues concerning postoperative backaches owing to spinal anesthesia. 7.73% patients were found to have mixed concerns. And only about 14% of patients said that they had no fear regarding their surgeries. **Conclusion :** In a rural setup, preoperative counseling of a patient by the doctor definitely helps in post operative recovery. In case of female patients, counseling of family members is also equally important. This data provides information that will be helpful in preoperative patient counseling and in generating awareness for patients undergoing surgeries and their relatives.

INTRODUCTION

Percutaneous Nephrolithotomy (PCNL), Ureteroscopy (URS), Transurethral Resection (TUR), Laparoscopic Appendectomy and Laparoscopic Cholecystectomy are some of the most commonly performed operations in Urology and Gastroenterology. Although information concerning the clinical and surgical outcome is abundant, little attention has been focused on the concerns of the patient prior to undergoing these minimal invasive or other major invasive surgeries. Going under the knife and being hospitalized is a stressful experience that affects the physical and psychological well being of a patient, which can adversely have an effect on post operative recovery and to some extent mental health of the patient and their relatives as well. Studies have reported that lack of preoperative preparation and counseling of patients, not addressing postoperative concerns and anxiety, and being insensitive to the negative thoughts and belief system of patients and their relatives are remarkably related with psychological and psychiatric disorders. In addition, review of literature have recommended that health-care professionals, especially surgeons, need to

counsel the patient and their family members before and after surgery, but doctors are usually unenthusiastic and least interested to provide essential information and counseling related to surgery and do not empathize toward the patients day-to-day concerns. In a rural set up patients with lower educational qualification and families belonging to lower socioeconomic group were also found to be least concerned and minimally informed. Unexpected sickness, non preparation for hospital stay, fears allied to surgical procedures, post operative follow ups, hospital and medical expenses, long hours of wait and caregivers responsibilities adds to the inconveniences and increases the stress and anxiety among patients and their families. Counseling is the guidance offered by trained therapist or doctors to help the patient and their family members resolve social, personal or medical problem. Offering counseling sessions is too time-consuming for today's busy surgeon owing to the increased outflow of patients and also due to the lack of training in communication. The purpose of this study is to document and examine the concerns patients have prior to undergoing above mentioned as well as

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other Urological and Gastro Intestinal procedures in both a large Trust Hospital and a moderately sized Urologic Private Practice.

PATIENTS AND METHODS

Two hundred and seven (207) patients undergoing various urological and gastro-intestinal surgeries completed a questionnaire covering 12 items, regarding their personal data, concerns, issues and anxiety prior to surgery. Patients who could not understand English and Gujarati, who had psychiatric illness or mental retardation, or who refused to give consent and a few pediatric cases were excluded. The patients were given the survey after having met their surgeon before the surgery and also after the surgery was over. All the patients were interviewed when they were most comfortable resting in their cots in the presence of their relatives. The patients were surveyed at both a large trust hospital in Mahuva – Sadbhavna Trust Hospital, Kalsar, Mahuva, District Bhavnagar, Gujarat, India. And a moderate sized private practice hospital – Urocare Superspeciality Hospital, Mehsana, Gujarat, India. The information covered during the survey and the methods of delivery were standardized for all patients. General patient demographics, medical histories, current issues about anxiety regarding surgery, thoughts regarding same issues post surgery and how the anxiety, concerns and issues were taken care of were all documented.

Patients responded verbally and concerns were noted down and listed. Responses were examined for association with patients gender; i.e male or female, the type of surgery whether urological or gastrointestinal, private set up or trust hospital, the socioeconomic status of the patient (according to Prasad's classification), occupation of the patient, if the patient had had previous surgery, if the patient had a previous surgical complication and if the patient had discussed risks, concerns, and anxieties with the concerned surgeon.

RESULTS

A total of 207 patients were interviewed in this perspective survey over a period of one year between 2016 to 2017, in a trust hospital and a private care hospital. The mean age of the respondent was 42.5 years (range 10 years to 75 years), 135 respondents were younger than 55 yrs and 66 respondents were aged 55 yrs or older (Table 1). 57 of the total 207 respondents were females and the remaining 150 were males respondents (Table 2). 72.46% of the patients were to undergo urological surgeries and the remaining 27.54% were to undergo gastrointestinal surgeries (Table 3 and Pie chart 1). There were 125 patients surveyed at the trust hospital and 82 surveyed at the private care hospital (Pie Chart 2). Almost all of the

female patients (24.64%), 51 women had concerns regarding their household work and their families as to who will take care of the household chores/children in their absence. Around 20.77% (43 patients) had concerns regarding pain relief, symptoms relief, recurrence of disease, medication, and recurrent hospitalization. 18.36 % (38 patients) had had previous surgeries and all of them had experienced discomfort regarding backache due to spinal anesthesia, which made them anxious and they showed fear of anesthesia. 14.50% (30 patients) were either unskilled workers like laborers', watchmen, carpenters, car mechanics, tailors, farmers, goldsmiths etc. (Pie chart 3), all of these patients were mainly concerned about the expenses regarding the surgery and the medication and the number of days they will miss at work. 7.73% (16 patients) shared mixed concerns and issues like fear of surgery and hospitalization, caretakers role and responsibilities, anxiety etc. And the remaining 14 % (29 patients) had no fears regarding their surgeries (Table 4).

Table 1 : Age Distribution

Age range	No. of patients	Percentage
= < 20 years	20	9.66%
21 – 40 years	44	21.25%
41 – 60 years	100	48.32%
61 – 80 years	43	20.77%
Total	207	100%

Table 2 : Sex Distribution

Sex	No. of patients	Percentage
Male	150	72.46%
Female	57	27.54%
Total	207	100%

Pie Chart 1 : Type of Surgery

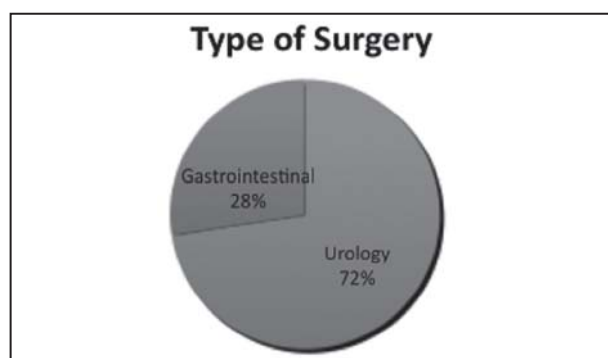


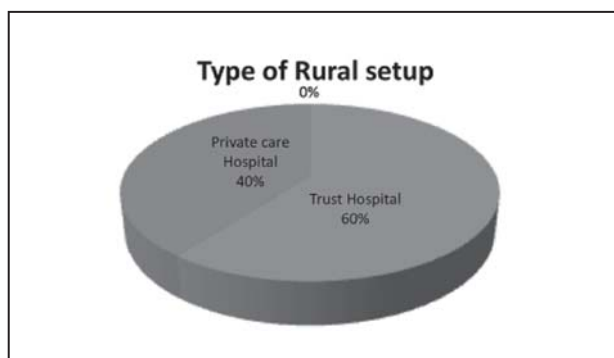
Table 3 : Type of Surgery and Procedures carried out

Type of surgery	Procedure	No. of patients	Percentage
Urology	PCNL	60	40%
	TUR	36	24%
	URS	3	22%
	Hernioplasty	09	6%
	Nephrectomy	03	2%
	Stricture Urethra	03	2%
	VesicoVaginal Fistula	03	2%
	Litholepexy	03	2%
Total		150	100%
Gastrointestinal	Lap. Appendectomy	15	26.31%
	Lap. Cholecystectomy	12	21.05%
	Hemorrhoids	12	21.05%
	Open Appendectomy	08	14.03%
	Open Cholecystectomy	03	5.26%
	ERCP	02	3.51%
	Epigastric Hernia	02	3.51%
	Liver abscess	01	1.76%
	Superficial Parotidectomy	01	1.76%
	Ileostomy closure	01	1.76%
Total		57	100%

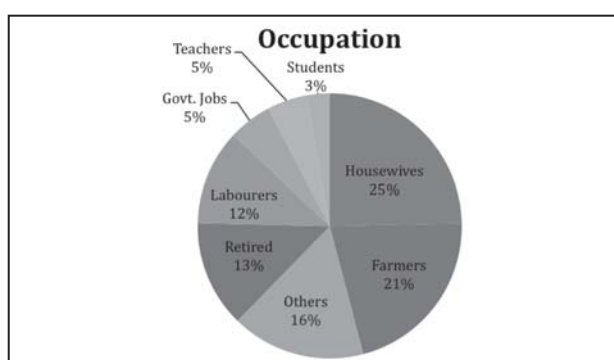
Table 4 : Preoperative concerns of the patients

Concerns and Issues	No. of patients	Percentage
Who will take care of the household chores/children (specially females patients).	51	24.64%
Pain relief, symptoms relief, recurrence of disease, medication, recurrent hospitalization.	43	20.77%
Fear of anesthesia (post operative backaches).	38	18.36%
Missing no. of days of work (patients working on daily wages).	30	14.50%
Mixed concerns and issues like fear of surgery and hospitalization, caretakers role and responsibilities, anxiety etc.	16	7.73%
No Fears, Anxieties and Concerns	29	14.00%
Total	207	100%

Pie Chart 2 : Type of Rural setup



Pie chart 3 : Occupation of the patients



DISCUSSION

Percutaneous Nephrolithotomy (PCNL), Uteroscopy (URS), Transurethral Resection (TUR), Laparoscopic Appendectomy and Laparoscopic Cholecystectomy are some of the most commonly performed minimal invasive procedures in urology and gastroenterology that can be extremely distressing to the patients. Surgeons have appropriately focused their attention on outcomes after these surgeries, but patient concerns prior to undergoing these procedures have received little attention. Pain after the surgery, length of recovery, expenses, fear of anesthesia, care of the family members in absence (specially for female patient) were the most notable concerns of the group as a whole prior to any of the procedures.

Any surgery be it major or minimally invasive is a terrifying experience for the patient. It was observed that most of the time, neither the patients nor their family members are aware of the illness or the surgical procedures to be carried out. Thus, patients and their caregivers who are awaiting their turn for the proposed operation face and experience loads of worries and tensions which includes stress, anxiety, depression and may turn out to be uncooperative to the doctor and the treatment. Hence being sensitive and understanding towards the concerns of the patients and giving them pre operative counseling sessions will alleviate the fears, clarify concerns related to

surgery, duration of surgery, role of anesthesia, and to prepare the patients psychologically for surgical interventions, it will also give them a reasonable understanding of the planned surgery and its prognosis, further it will create awareness amongst them regarding the procedure and post surgical pain and complications if any. Studies have reported that giving preoperative counseling sessions has a positive effect on the patient and it minimizes the postoperative stress level, the pain and anxiety of the patients as well as their relatives. Another significant intervention needed in these counseling sessions is identifying, appraising and understanding the psychosocial necessities, issues and concerns of both patients and their family members.

Postoperative counseling too is equally necessary and helpful. This phase begins immediately after surgery and continuous until patient is discharged from the hospital. The purpose of the postoperative counseling is to deal with the postoperative fears, anxiety, concerns and other emotional issues if any. It also provides supportive care for patients and their relatives and builds up a rapport with the concerned doctor. The other day-to-day concerns such as suture removal, wound cleaning and dressing, pain education and management, drug compliance, and explaining the likely healing and recovery would be of immense assistance for the patients and their family members. A brief knowledge about illness and providing necessary guidance and counseling helps the patient to adjust with postoperative environment.

The family members of the patient too needs to be thoroughly educated regarding the illness, the causes, the procedure, the post operative prognosis and side effects, their role and their responsibilities in the hospital and at home. Studies have also reported that patients and their caretakers who are contented and satisfied with preoperative and post operative counseling sessions show significant improvement and demonstrate good psychological adjustments. Patients and their relatives who have not received any counseling or those that are dissatisfied with the sessions are more prone to develop psychological and psychiatric disorders. Consequently, both pre operative and postoperative counseling of patients and their relatives is crucial.

CONCLUSION

In a rural setup be it private or a trust hospital preoperative and post operative counseling by the concerned operating surgeon definitely has many positive effects on patient's physical and mental recovery, coping efforts, attitude, it reduces anxiety and improves mood disturbances. Counseling helps in allowing the patient and family members to prepare for the future. In

case of female patients, counseling of relatives and other family members is also very important. In a concluding note, a doctor plays an important role by providing informational, educational and by addressing the concerns and the psychosocial issues of patients and their family members. The concerned surgeon ensures retaining the patient for follow-up and adhering them to treatment schedules in all the stages of their illness, be it preoperative or post operative, a trust hospital or a private setup. Therefore, every hospitalized patient undergoing any major or minor surgical procedure and their family members should be provided with pre operative, post operative and lastly pre discharge counseling sessions for effectively addressing the psychosocial needs and concerns of the patients and caretakers in a rural set up.

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ORIGINAL ARTICLE

A Comparative Study of Dosage of MGSO₄ in Indian Women with Eclampsia.

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KEY WORDS : : Eclampsia, Low dose magnesium sulphate, Pritchard regimen

ABSTRACT

ObjectiveTo assess the safety and efficacy of a low dose magnesium sulfate regimen for the management of eclampsia in Indian women.**Aims & Objectives:** 1)To identify the cases of eclampsia who come to dept. Of obstetrics & gynaecology of C.U.Shah medical college, surendranagar. 2)To treat some cases with Pritchard regimen & study the efficacy & safety profile. 3)To treat some cases with Low-dose regimen & study the efficacy & safety profile. 4)To compare the efficacy & safety profile of the two regimens.**Methods:** A loading dose consisting of 4 gram of magnesium sulfate intravenously plus 6 gram intramuscularly (3 gram in each buttock) was followed by 4 gram intramuscularly every 4 hours, for 24 hours beyond the last seizure. This regimen was evaluated prospectively with 50 women with eclampsia and the results were compared with Pritchard regimen which was used in 50 women with eclampsia.**Results:** **Conclusion:**The low dose regimen was associated with a lower seizure recurrence and a slightly lower maternal mortality. This study confirm that Low-dose regime is as effective and safer than Prichard regime.

INTRODUCTION

Hypertensive disorders remain among the most significant and intriguing unsolved problems in obstetrics. Hypertensive disorders complicate 5 to 10 percent of all pregnancies, and together they are one member of the deadly triad along with hemorrhage and infection that contributes greatly to maternal morbidity and mortality. Pre-eclampsia is identified in 3.9% of all pregnancies¹. The World Health Organization (WHO) systematically reviews maternal mortality worldwide, and in developed countries, 16% of maternal deaths were reported to be due to hypertensive disorders². Together preeclampsia – eclampsia account for 40,000 maternal deaths every year with most of the mortalities occurring in the developing countries. In India, they account for 5% of all maternal deaths with most of them occurring due to eclampsia. Eclampsia is derived from the Greek word meaning flash of lightening, to shine forth. Eclampsia is defined as the occurrence of generalized tonic-clonic convulsion in women with pre-eclampsia not caused by any other neurological or medical disorders. The major breakthrough in the management of eclampsia came when Dr. J A Prichard published his standard protocol in 1984³. Currently the most commonly used regimens of magnesium sulfate administration is the standard regimen of Pritchard^{3,4,5,6}. Pritchard regime sometimes

ends up with toxicity, due to its high dosage (34 g) because the women Pritchard studied were obese and well-nourished from developed country, the same dosage may not apply to the lean and malnourished of developing countries like India. Pritchard himself stated that “If a woman is known to be or appear to be small, the dose should probably be limited.” - J. A. Pritchard, American Journal of Obst. & gyn vary according to the patient's weight or body mass index. However this has never been adequately evaluated⁷. With this background Low-dose protocol (26 g) has been formulated to suit our Indian women with eclampsia to reducing magnesium sulfate toxicity without compromising its efficacy in controlling seizures. This study is to compare the efficacy and safety profile of two different regime, Pritchard regime and low dose regime in Indian women with eclampsia.

MATERIALS AND METHODS

A prospective study was conducted at a tertiary care teaching hospital from December 2014 to October 2016 in 100 patients with eclampsia. A written informed consent was taken from patient and/or relative for participation in this study. All cases of Eclampsia (Antepartum / Intrapartum / Postpartum) were included in the study. Other cases of convulsions like Epilepsy, meningitis, encephalitis, cerebrovascular accidents, rupture of aneurysm were excluded. Eclampsia with severe

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complication such as CVA, HELLP Syndrome, Renal failure, Oliguria, Pulmonary oedema, massive hemorrhage and shock and suffering from known medical diseases like Diabetes mellitus, Heart disease, Jaundice, Blood dyscrasia were also excluded. Out of the 100 patients, 50 patients were randomly selected for Pritchard regimen and given intravenous Loading dose of 4 g mgso4 (20 ml of 20%) iv f/b intramuscular loading dose of 5 g mgso4 (10 ml of 50%) im in each buttock, Maintenance dose of 5 g mgso4 (10 ml of 50%) im was given 6 hrly on alternate buttock. Total dose of magnesium sulfate was 34 g. Other 50 patients were given Low-dose regimen with intravenous Loading dose of 4 g mgso4 (20 ml of 20%) iv f/b intramuscular loading dose of 3 g mgso4 (6 ml of 50%) im in each buttock, Maintenance dose of 4 g mgso4 (8 ml of 50%) im was given 6 hrly on alternate buttock. Total dose of magnesium sulfate was 26 g, 23.53% less than Pritchard regime. Detail history was elicited and examination was carried out. Weight of the patient was obtained from antenatal card for booked patients and mamta card for unbooked ones. Abdominal examination was also carried out, height of fundus, presentation of the fetus and Uterine contractility was assessed by palpation. FHS were ausculted using a doppler. Per vaginum examination was carried out at the time of admission and repeated every 4 hourly and then according to progress of labor. All patients were monitored hourly by pulse, BP, respiratory rate, Spo2, level of consciousness, knee jerk, auscultation of lungs, urine output. Maintenance dose was given as per schedule if their urine output > 30ml/hour, deep tendon reflexes present, respiratory rate > 14/min and pulse oximetry \geq 96%. Evidence of magnesium toxicity was detected by absence of deep tendon reflexes, respiratory rate and pulse oximetry. Continuous catheterization and I.V fluid was given very cautiously. If convulsions persisted after start of therapy additional 2gm mgso4 (20% solution) given intravenously. All necessary investigations like CBC, urinary protein, blood group, RBS, serum creatinine, SGPT, serum electrolyte, serum bilirubin, blood coagulation profile, HIV, HBsAg, test were done. The additional antihypertensives used were oral nifedipine, oral labetalol and intravenous labetalol as per the management protocol practiced in our hospital. Patients under study were either induced, allowed to deliver spontaneously or if indicated cesarean section was performed. Progress of labor was monitored. Mothers were kept under close observation at least for 72 hours post-partum.

OBSERVATION

From the prospective study was conducted from December 2014 to October 2016 in 100 patients with

Eclampsia, Following observations were recorded incidence of eclampsia is more in unbooked cases than that of booked cases. Majority of patients with eclampsia were in the age-group of 21-30 years 72%, 20% were in the age-group of 20 years and below, whereas 8% patients were 31 years and above. Incidence of eclampsia is more in primi para than that of multi para. 61% patients were primi para and 39% patients were multi para. In this study, 55% of patients were had 3-5 convulsions, 36% of patients were had 1-2 convulsion and 9% of patients were had more than 5 convulsions before starting of treatment. In this study, 68% of patients were conscious, 27% of patients were semi-conscious and 5% of patients were unconscious at the time of admission. Patients with weight of 45-49 kg 23 (46%) patients received Pritchard regime and 22 (44%) patients received Low-dose regime. Patients with weight of 50-55 kg 27 (54%) patients received Pritchard regime and 28 (56%) patients received Low-dose regime. In this study, incidence of eclampsia is more in 36 wks of gestation and above, 52% of patients were had gestational age of 36 wks and above, 35% of patients were had gestational age of 30-34 wks and 13% of patients were had gestational age of 28 wks and below. Ante partum eclampsia is much more common. 86% of patients were of Ante partum eclampsia, 10% patients were of Post partum eclampsia and 4% of patients were of Intra partum eclampsia. 54% of patients were had systolic blood pressure 150-159 mm Hg and diastolic blood pressure 100-109 mm Hg and 46% of patients were had blood pressure \geq 160/110 mm Hg on admission. Patients who were treated with low-dose regime from them 8 (16%) patients had 1 episode of recurrence of convulsion and patients who were treated with Pritchard regime from them 2 (4%) patients had 1 episode of recurrence of convulsion. Patients who were treated with Pritchard regime had developed much more toxicity, 8 (16%) had absent DTR and 2 (4%) had respiratory depression. Patients who were treated with low-dose regime had developed very less toxicity, 2 (4%) had absent DTR and no any patient developed respiratory depression. Patients with body weight of 45-49 kg, 23 patients who received pritchard regime, 6 of them developed toxicity, and patients with body weight of 50-55 kg, 27 patients who received Pritchard regime, 4 of them developed toxicity. Patients with 45-49 kg, 22 patients received Low-dose regime, 2 patients developed toxicity, and no patient developed toxicity with body weight of 50-55 kg. Patients who treated for eclampsia, 19% were delivered FTND (full term vaginal delivery), 3% were vacuum delivery, 43% were PTVD (preterm vaginal delivery) and 35% were delivered by cesarean section. Patients who treated with Pritchard regime, 34 (68%) had good perinatal outcome, 10 (20%) poor and 6 (12%) had

IUD (intra-uterine death). With low-dose regime 41 (82%) had good perinatal outcome, 3 (6%) poor and 6 (12%) had IUD (intra-uterine death). Patients who were treated with Pritchard regime, 41 (82%) had systolic blood pressure 120-129 mm Hg and diastolic blood pressure 90-99 mm Hg, 9 (18%) had blood pressure of $\geq 130/90$ mm Hg on discharge. With low-dose regime, 38 (76%) had systolic blood pressure 120-129 mm Hg and diastolic blood pressure 90-99 mm Hg, 12 (24%) had blood pressure of $\geq 130/90$ mm Hg on discharge.

DISCUSSION

In this study, 100 cases of eclampsia, who came to the Dept. of Obstetrics and Gynaecology of a tertiary care teaching hospital, have been studied during the period of December 2014 to October 2016. Detailed analysis has been done and the results have been compared with the statistics available from Indian authors and other authors around the world. As is evident from this study correlates

with the study done by other authors, incidence of eclampsia is higher among the age group of 21-30 years. In Prosunbera et al⁸ study it is 87.6%, in Cherukuri karuna el at⁹ study it is 82%, Nautiyal el at¹⁰ study it is 88% and in present study it is 72%

Eclampsia is much more common, in primi para, it is correlates with the study done by other authors from India and around the world. Present study showing 61% of patients with eclampsia were primi para and 39 % were multi para. Sultana N¹¹ reported 73 % patients were primi para, Cherukuri karuna el at⁹ reported 78% and Ruchiranauiyal el at¹⁰ reported 72% patients were primi para in their study. As is evident from this study ante partum eclampsia is most common type of eclampsia, it is correlates with the study done by other authors from India. Present study showing 86% had ante partum eclampsia, 10% had post partum eclampsia and 4 % had intra partum eclampsia. R sasikala el at¹² reported 83% ante partum eclampsia, jayatinath el at¹³ reported 74% ante partum

Efficacy of Low-dose regime in different study

Study	Total no. Of patients	Control of convulsion
Cherukuri karuna el at ⁹	50	94%
Jayatinath el at ¹³	50	86%
Present study	50	84%

Statistical study for Comparison of safety profile of two regimes

Regimen	Total no. of patients	No. of patients developed toxicity	No. of patients not developed toxicity	Statistical Study
Pritchard regime	50	10	40	$\chi^2 = 6.061$ $df = 2$ $p < 0.05$ (0.048291)
Low -dose regime	50	2	48	

Statistical study for Comparison of efficacy of two regime

Regimen	Total no. of patients	No. of patients with recurrence of convulsion	No. of patients without recurrence of convulsion	Statistical Study
Pritchard regime	50	2	48	$\chi^2 = 4$ $df = 2$ $p > 0.05$ (0.135335)
Low -dose regime	50	8	42	

eclampsia and Cherukuri karuna el at9 reported 76% ante partum eclampsia in their study.

As is evident from above table Low-dose regime is efficient to control convulsions in indian women. As shown in table, Cherukuri karuna el at9 study 94% patients were control convulsions, another study Jayatinath el at13 shows 86% of patients were control convulsions and present study shown 84% of patients were control convulsions.

Statistical study for Comparison of safety profile of two regimes

Above Table shows whether safety profile of Low-dose regime is more than Pritchard regime on basis of development of toxicity. The Chi-square test was applied and its value came to be 6.061. The p-value for the above table for degree of freedom (df) = 2 is 0.048291 i.e. p-value < 0.05. This means that the difference between the two groups is statistically significant.

This shows that patients with eclampsia if they receive Low-dose regime, they having less chances of development of toxicity. This Statistical study shows that Low-dose regime is more safer than Prichard regime in indian women with eclampsia.

Above table shows whether efficacy of Low-dose regime and Pritchard regime are equval on basis of recurrence of convulsion. The Chi-square test was applied and its value came to be 4. The p-value for the above table for degree of freedom (df) = 2 is 0.135335 i.e. p-value > 0.05.

This Statistical study shows that efficacy of Low-dose regime and Pritchard regime is same.

CONCLUSION

From the above observations and discussion, following conclusion has been drawn:

- ✓ Present study concludes that Low-dose of Magnesium Sulfate is as effective as Standard Pritchard regime in the control and prevention of recurrent convulsions.
- ✓ Low-dose Magnesium Sulfate is sufficient to prevent recurrence of convulsion in 84% of cases.
- ✓ Dose required for control of convulsion with Low-dose Magnesium Sulfate is 23.53% less than that of Pritchard regime.
- ✓ Present study conclude that Pritchard regime end up with more magnesium sulfate related toxicity on clinical monitoring, 20% cases developed toxicity.
- ✓ There was minimum Magnesium Sulfate related toxicity on clinical monitoring with Low-dose regime as compared to Pritchard regime.

- ✓ As the Low-dose regimen lowered the drug dose for each patient, it substantially lowered the overall cost of treatment.
- ✓ The results of present comparative study of both regimes confirm that the Low-dose is adequate for Indian women with eclampsia who weigh less than the western counter parts.
- ✓ The present comparative study of both regime confirm that Low-dose regime is as effective and more safer than Prichard regime.

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ORIGINAL ARTICLE

Intralesional Bleomycin in the treatment of Orbital Lymphangioma- Original Article

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KEY WORDS : Orbital, Lymphangiomas, Bleomycin

ABSTRACT

A prospective study of 15 patients of orbital lymphangioma, diagnosed clinically and radiologically, is presented. Age of patient varied from 2 to 45 years. Treatment of patients was combination of intralesional injection Bleomycin in all patients with surgical excision in some where cyst was anteriorly situated. Dose of drug was 0.5 mg /Kg body weight, not exceeding 10 units at a time. A 24 g needle was passed into the orbital cyst and fluid was aspirated. Keeping needle in same position, drug was injected into the cyst. Follow up after 6 months, 4 patients had total regression clinically and on B scan. Seven patients had partial regression and injection was repeated. In 2 patients as mass was anteriorly situated, surgical excision with injection of dye in posterior lesions. In 2 patients there were residual asymptomatic cysts in posterior part and so patients were kept under observation. No significant side effects were observed.

INTRODUCTION

Although benign and representing only 1 to 3 percent of all orbital masses, orbital and periorbital lymphangiomas are an obstinate bunch: These hamartomatous, nonencapsulated tumors interwine with surrounding normal tissue, increase in size with infections, and create proteinaceous or blood-filled cysts that can bleed spontaneously—despite the absence of an identifiable blood supply.

AIM

The study was conducted to find out the clinical effect of Inj Bleomycin on clinically diagnosed orbital lymphangiomas.

MATERIAL

This is a prospective non randomized clinical study carried out in Nagri Eye Hospital, Ahmedabad between January 2015 and April 2016. Patients having complains indicating lymphangioma were investigated radiologically with B scan ultrasonography, CT scan and MRI. If diagnosed as lymphangioma, patients were included in the study. Clinical features were proptosis, bluish conjunctival mass, subconjunctival hemorrhage with proptosis or dilated blood vessels, or rarely hemolacryma(bloody tears). There was a history of upper respiratory tract infection(URTI) in 5 patients. Four patients gave a history of sudden increase in the amount

of proptosis with URTI. One patient gave a past history of operated by a neurosurgeon for swelling on forehead 5 years back. On systemic examination, a two year old child showed a brownish vascular tuft on the hard palate in the mouth.

Age of the patient varied from 2 year to 45 years and all were reported to have developed within past five years of life. There were 8 females and 7 males. It was unilateral in all cases. None had a positive family history.

METHOD

Two treatment modalities were employed in the study. If the mass was anteriorly situated and well localized, the surgical excision was done with injection of Bleomycin in the microcysts. If the lesion was big and posteriorly situated, an attempt was made to expose the anterior extent of the lesion which on examination under microscope appeared as bluish pearly lobules. A 24 gauge needle on 5 cc empty syringe was inserted in the mass towards center and posterior pole. With suction, fluid was aspirated, which was dark brown in all cases with some times fresh blood was aspirated along with. This led to collapse of the macrocyst and the proptosis reduced. A gentle pressure was maintained and with needle in place syringe was detached. Another syringe containing bleomycin solution was attached and the solution was injected into the cyst. Amount of fluid injected was either equivalent to the amount of fluid aspirated or

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according to pre injection dose calculated. Constant firm pressure was maintained and pad was applied to prevent upthrust. Eye was bandaged with moderate pressure.

Injection Bleomycin is available in vial. A fresh drug is prepared. It is diluted in 5 cc saline. Dose of drug was 0.5 mg /Kg body weight, not exceeding 10 units at a time.

OBSERVATION

Patients were followed up on the first post operative day to examine the status of proptosis, chemosis, visual acuity and fundus to see the condition of optic disc. Next follow ups were done after 15, 30, 45 and 60 days. Late follow up was at the end of one year. Follow up after 6 months, 4 patients had total regression clinically and on B scan. Seven patients had partial regression and injection was repeated. In 2 patients as mass was anteriorly situated, surgical excision with injection of dye in posterior lesion was done with total regression. In 2 patients there were residual asymptomatic microcysts in posterior part and so patients were kept under observation. No significant side effects were observed.

DISCUSSION

Lymphangiomas are rare vascular hamartomata of lymphatic channels

They are hemodynamically isolated from the vascular system and are most commonly found in head and neck region. They consist of enlarged, non-capsulated channels lined with a single layer of endothelium. The lesion is a hamartoma- abnormal growth of endothelial lined channels interspersed with normal tissue

Histopathology study of lymphangioma shows infiltrative endothelium like channels, with a sparse cellular network and lymphocytes. Lymphatic follicles are also seen in the walls of the tumor. Red blood cells are not present unless secondary hemorrhage has occurred. Orbital imaging is essential to help make correct diagnosis and also, to determine the extent of the lesion. Superficial lesions can be identified clinically but deep lesions can be diagnosed only with the use of radiology. USG is the first line of investigation and should be performed in all the patients. In capillary hemangiomas - USG shows high amplitude, closely packed echoes from vessel walls adjacent to blood filled spaces. Lymphangiomas have a similar USG pattern, however, with very wide separations of echoes due to larger fluid lakes. CT scan plays a very important role in diagnosis as well as for depiction of extent of the disease due to its multiplanar reformation capability and

high spatial resolution. CT findings correlate well with surgical and histological findings. MRI on T1 signal shows blood as hyperintense but rest of the lesion will be hypointense. On T2 signal lesion gives hyperintense signals. In Flow Void Phenomenon tumor vessels can be delineated without the use of contrast agents

Treatment options for Lymphangioma can be broadly categorized into:

Observation

Surgical excision

Non-surgical interventions

Surgery can be carried out for well localized small lesions or as a part of debulking. Non surgical therapy is in the form of sclerosing agents like ethyl alcohol, Na tetradecyl sulphate, ethanolamine oleate, OK-432, Doxycycline and Bleomycin. Cryotherapy, radiotherapy or CO2 laser are useful in selected cases.

Inj bleomycin intralesionally is a new modality which is found to be useful in lymphangioma. Its mechanism of action is:

1. Cytotoxicity mediated by DNA cleavage at the level of linker DNA between nucleosomes
2. Proptosis is induced in rapidly growing immature cells including those of vascular malformations
3. Specific Sclerosing effect on vascular endothelium cells

Bleomycin is a cytotoxic antitumor antibiotic. It can be administered intralesionally by transcutaneous injections and effective as a modulator of vascular anomalies. It provides "Non-surgical" and "Scarless" treatment. It is predictable and significant response rates are observed in vascular malformations including microcystic lymphatic malformations.

15 (15 mg) units of bleomycin powder is available in a vial. A solution is reconstituted with 1.5 ml of 0.9% normal saline yielding a 1 unit/ml concentration. A 24 Gauge needle attached with a 5cc syringe is used to administer the dose. Dose of bleomycin in 1 session 0.5 - 1 unit /Kg not exceeding 10 mg at a time. Its side effects are minimum with a big safety margin. A rare complication is pulmonary fibrosis which is dose dependent. Erythema, edema, pain at the site of the injection are some of the minor complications which can be easily treated. Local skin necrosis and eschar formation at the site of injection are also rare.

Limitation of study:

1. Shorter follow up.
2. No controlled study with other drugs. Small number of patients. Not all cases diagnosed on histopathology.

CONCLUSION

Intralesional bleomycin is one of the effective non invasive methods for the treatment of orbital lymphangiomas. It is safe without major complications.

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ORIGINAL ARTICLE

Role of Blood Components Transfusion in Obstetrics

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KEY WORDS : Blood transfusion, Obstetric Practice, Rational use.

ABSTRACT

Appropriate and rational use of blood/components is essential for ensuring availability for the needy as well as preventing risks of transfusion-transmitted diseases and saving resources. The safety, adequacy, and effectiveness can only be achieved if unnecessary transfusions can be prevented. Recombinant factor VII a is a new adjunct for treatment of massive haemorrhage and should be considered, if available. Among all the causes Hemorrhage is leading cause of maternal mortality and intensive care unit admission in obstetrics. Thus, leading cause of maximum transfusion of Blood and Blood component in obstetric Practice.

INTRODUCTION

Obstetric is branch of which requires maximum transfusion of blood and blood components. Modern blood management generally recognize the importance of blood conservation, both from the perspective of the patient, who benefits from the avoidance of an unnecessary transfusion, and society, which benefits from appropriate consumption of limited resources.

In obstetrics, the pregnant woman on the other hand, by virtue of her anatomy and physiology, presents unique challenge to the obstetrician. Discussion on blood and blood components in obstetrics, by its nature, is about obstetrics hemorrhage. Hemorrhage is the leading cause of maternal mortality and intensive care unit admission in India as well as worldwide in obstetrics[1]. In developing country like India, where prevalence of under nutrition and anemia is very high, minimal amount of blood loss during parturition may lead to hemorrhagic shock. In this situation gold standard management is transfusion of blood and blood components, it has become possible to transfuse the components which are necessary. In certain obstetrical conditions (e.g. IUFD, ABRUPTIO PLACENTA, HELLP Syndrome etc.) where hematological changes are likely to occur, prophylactic transfusion of various component can be considered.

The goal of caring for these women is to obtain a healthy outcome with minimal morbidity for both mother and baby,

while minimizing the use of allogeneic blood products. Establishment and maintenance of facilities that allow prompt and appropriate administration of blood and blood components are absolute requirements for acceptable obstetric care. With the use of blood and blood components therapeutically as well as prophylactically can reduce the mortality and morbidity in obstetrics.

AIMS AND OBJECTIVES

Our Aim is to analyze and list out use of blood and blood components at different period of pregnancy and delivery and to study the prophylactic role and response of transfusion of Blood and Blood components.

MATERIALS AND METHODS

In hospital based, prospective study of randomly selected 100 patients, admitted in obstetric department. Which included women with pregnancy, delivery and postpartum period in which blood and blood components were given at our institution from OCTOBER 2016 TO SEPTEMBER 2017 were studied.

History and detailed examination of patients who presented with obstetrics emergency were recorded. Patients were transfused whole blood or blood components as per laboratory and systematically tabulation and charts were made.

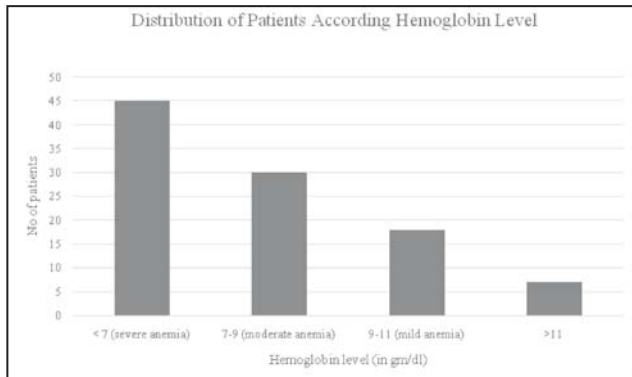
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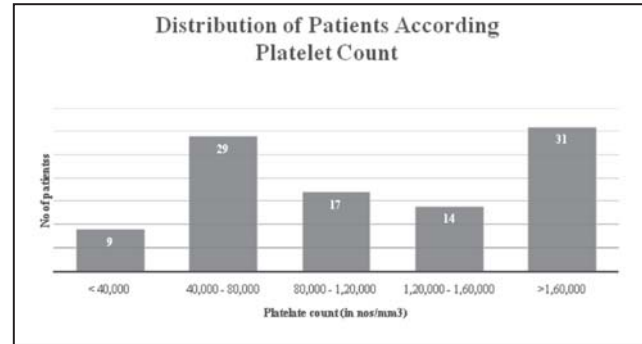
OBSERVATION AND DISCUSSION

In the present study 100 cases were randomly selected, presented in Obstetric department in whom blood and blood components were given at our institution. Out of the total 100 cases, 23 cases were of ante partum, 56 cases were of intra partum and 21 cases were of postpartum. Observation and analysis was carried out.

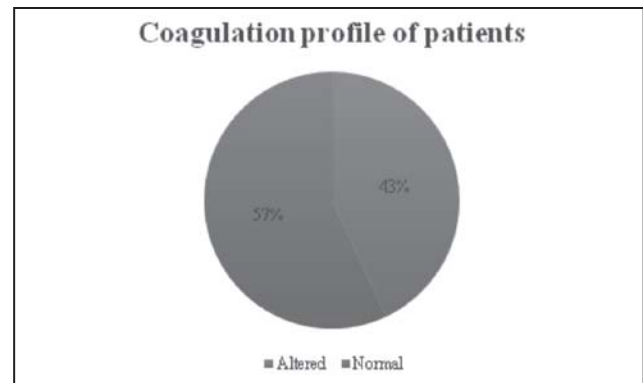
The results of this study are as under:



There is total 93 patients who has anemia. Among which 90 patients has given PCV. Blood is needed for immediate transfusion in cases of excessive hemorrhage at birth with Hb<7g/dl (Kalaivani et al^[2]).one common indication of transfusion in woman is severe anemia and prevalence of which south Asian countries is high, highest in India with half of the global maternal deaths due to anemia^[3]



In obstetrics patients with microvascular bleeding require platelet transfusion when platelet count is below 50000. In our cases 79 patients were transfused with FFP, while there is 43 patients in altered coagulation profile thus FFP given prophylactically.



Above chart shows that 43 cases had abnormal coagulation profile according to laboratory parameters, which included tests like Prothrombin time (PT), activated partial Thromboplastin time (APTT), fibrin degradation product (FDP) and D- dimer, bleeding time, clotting time and clot retraction time.

Distribution of Pt. According to component given

No. of Pt.	No. of component Given				
	Nil	1 to 5	6 to 10	11 to 15	16 to 20
Component given					
No of Pt. given Whole Blood	89	11	-	-	-
No. of Pt. GivenPCV	10	86	4	-	-
No. of Pt. given FFP	21	46	25	8	-
No. of Pt. given PRC	21	37	31	8	3

This Table shows that there is only 11 patients whom whole Blood was given there is only 10 patient who not required PCV transfusion and 86 patients were transfused about 6 to 10 PCV.

As along with Massive transfusion to prevent dilutiuonal coagulopathy PRC was given to 79 Cases. 31 patient had platelet count more than 1,60,000 mm3 of which 16 patient were given PRC on prophylactic Bases.

Diagnosis of Patients in Whom Transfusion Was Done

Diagnosis	No of patients
Direct causes	
PIH and its complication	24
Abruptio Placenta	21
PPH	20
Placenta previa	6
Rupture uterus	5
Uterine inversion	1
Indirect causes	
Severe anemia	43
Thrombocytopenia	13
Jaundice	9
DIC	4
Malaria	1
Sickle cell anemia	1
Von willebrand Disease	1
Thalassemia minor	1
Aplastic anemia	1

Here 43 patients has severe anemia and other major cause is hemorrhagic, thus obstetric hemorrhage is major cause of perinatal and maternal mortality[4]. Hemorrhage is leading cause of ICU admission[1].

Mode of Delivery

Mode of delivery		No. of patients
Vaginal		45
LSCS		51
Instrumental Delivery	Forceps	3
	Vacuum	1

Above table and chart shows the mode of delivery in cases of the study. 51 patients delivered by LSCS, 46 by vaginal route and 4 cases had instrumental delivery of which, 3 cases by forceps and 1 by vacuum.

Fetal Outcome and Obstetrics Emergency

Fetal outcome	No. of newborns
Live	73
Still birth	27

Out of 100 deliveries, there were 73 live births and 27 still births. In obstetrics emergency cases there is high fetal morbidity and mortality.

In the present study out of 100 cases there were 7 maternal deaths. cause of death was DIC in 2 cases, eclampsia in 2 cases, PPH in 2 cases, Jaundice in 1 case hepatic encephalopathy.

Distribution of patients according to iron supplementation in cases of obstetrics emergency.

Iron supplementation	No. of patients
Yes	82
No	18

Above table suggests that majority of (82%) patient had taken iron supplementation during their pregnancy and still obstetrics emergency is prevalent in them. According to WHO, most common cause of anemia is nutritional and iron deficiency anemia which contributes about 75-95% which is followed by folic acid and vitamin B12 deficiency[5].

SUMMARY

CONCLUSION

Hemorrhage is the leading cause of maternal mortality and morbidity in developing countries. Proper intra partum monitoring and prediction of complications before they occur. Active management of third stage of labor can minimize the blood loss. Components can be give according to requirement. Blood bank facilities should be available to peripheral health centers. Instead prophylactic administration of blood components has definitive Role and may prevent morbidity and mortality in cases if obstetrics emergency.

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CASE REPORT

Cervical Ectopic Pregnancy

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KEY WORDS : Cervical, Ectopic, Pregnancy

INTRODUCTION

Cervical ectopic pregnancies account for less than 1% of all pregnancies, with an estimated incidence of one in 2500 to one in 18,000 with potential grave consequences if not diagnosed and treated early enough^[1,2]. Its etiology is still unclear. We present a case and ultrasound images of an early cervical ectopic pregnancy in a primigravida who was successfully treated with suction and evacuation.

CASE REPORT

A 20 year old primigravida, referred from a Private hospital as a case of cervical ectopic pregnancy, with active married life of 4 months conceived spontaneously, presented with 2 months of amenorrhea with complaints of abdominal pain and bleeding P/V for 2 days. Her last menstrual period was on 9/11/15 followed by spotting on 17/12/15. Her past menstrual cycles were regular, moderate and painless. There was no history of taking TT injection or undergoing MTP, abortion and contraception. On admission, her pulse rate was 96/min, BP- 120/80 mm of Hg, SpO₂- 99% on air. On examination, her abdomen was soft. On per speculum examination spotting was present and Os appeared to be closed. Per vaginal examination was withheld in view of cervical ectopic pregnancy. Initial investigations revealed Hb- 9.80 gm/dl, WBC- 14,200/mm³, platelets- 2,44,000, RBS-85mg/dl, RFT,LFT and electrolytes were WNL, β -hCG-7052.33 mIU/l. Her USG pelvis revealed an ill-defined G sac like structure measuring 12mm corresponding to 6 weeks and 1 day in cervical canal. Fetal pole was seen but fetal cardiac activity was absent, with empty uterine cavity. The patient was posted for Suction evacuation. Dilatation followed by suction and evacuation was done under short general anaesthesia and the tissue specimen was sent for histopathological examination. 1 unit PCV was given intraoperatively. Histopathological examination showed cervical tissue with chorionic villi and trophoblastic proliferation suggestive of Ectopic cervical pregnancy.

DISCUSSION

Cervical pregnancy results due to implantation of a fertilized ovum in the endocervical canal below the level of internal os with a reported incidence of less than 0.1% of all pregnancies^[1,2]. Early and timely diagnosis is critical for successful treatment and to avoid complications. Clinical manifestations include a period of amenorrhoea followed by profuse and often painless vaginal bleeding. Abdominal pain or cramps may occur in less than one third of patients. Even with advanced diagnostic modalities and reduction in current maternal mortality rates, Cervical pregnancy remains a life-threatening condition[3]. Although predisposing factors like endometrial damage after curettage or chronic endometritis, leiomyoma, intrauterine devices, in vitro fertilization and primary embryo anomaly are implicated in the pathogenesis of Cervical pregnancy, the rarity of the condition has prevented any retrospective studies, and the association of Cervical pregnancy with all these factors remains weak^[4,5].

Criteria for the diagnosis of cervical pregnancy (Rubin 1911)^[6]

1. Cervical glands must be adjacent to the placental attachment.
2. Placental attachment to the cervix must be situated below the entrance of the uterine vessels or below the peritoneal reflection of the anterior and posterior surfaces of the uterus.
3. Fetal elements must be absent from the corpus uteri.

Because strict anatomical and histological criteria necessitate a hysterectomy for a complete study of the entire uterus, Palman and McElin^[7] proposed 5 more clinically practical criteria for the diagnosis of this condition.

1. Uterine bleeding without cramping pain following a period of amenorrhoea.

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2. A soft, enlarged cervix equal to or larger than the fundus (the hour glass uterus).
3. Products of conception entirely confined within and firmly attached to the endocervix.
4. A closed internal cervical os.
5. A partially opened external os.

Sonographic demonstration of an intrauterine pregnancy represents extremely valuable evidence against the possibility of an extrauterine pregnancy. It should be understood that heterotopic pregnancies do occur and their incidence is increasing. Patients undergoing ovulation induction are at a higher risk. Endovaginal transducers greatly enhance visualization of early pregnancies. In ectopic pregnancies one may visualize a pseudogestational sac in which there will be only a single echogenic layer (instead of the two concentric echogenic rings of a true gestational sac) surrounding an intraendometrial fluid collection. Colour Doppler (especially transvaginal) will demonstrate focal "peritrophoblastic" flow that demonstrates a low resistance pattern on pulsed Doppler waveform analysis[8]. It tends to show a focal area of arterial flow adjacent to the sac that is more intense than other colour flashes in the uterus. Because of low diastolic resistance, this area of colour flow will appear continuous or nearly continuous during real time examination. As with intrauterine pregnancies, extrauterine pregnancies will

Figure 1 Endocervical location of the gestational sac demonstrated with echogenic midline vaginal cavity proximally (asterisk) and the echogenic decidual reaction in the endometrial cavity distally (arrow).



Figure 2. Peritrophoblastic blood flow in Color Doppler.



also show focally recognizable intense areas of colour flow. But they may demonstrate a high resistance pattern. Sonography is a pivotal examination in assessing ectopic pregnancy. In majority of cases, this diagnosis can be promptly made. A sonographic impression of cervical pregnancy is correct in 87.5% of cases. MRI maybe helpful in unusual or complicated cases.

Treatment modalities can be medical or surgical. Single or multidose intramuscular Methotrexate is effective in 80-90% of cases of early cervical ectopic pregnancy.

Surgical modalities include Dilatation & Evacuation or Hysterectomy. The main complication of D&E is a high incidence of severe haemorrhage which can be reduced by preoperative measures like transvaginal ligation of cervical branches of the uterine arteries, cervical encerclage, angiographic uterine artery embolization, intracervical vasopressin injection, balloon catheter tamponade of the implantation site after evacuation. It is desirable to avoid hysterectomy to enable future child bearing. Even though cervical ectopic pregnancy is very rare, there should be increased awareness of the condition. Timely and prompt diagnosis is essential for successful treatment and also to avoid interventions which could lead to severe haemorrhage necessitating hysterectomy.

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CASE REPORT

A Case Report of Adrenomyeloneuropathy- A variant of X linked Adrenoleukodystrophy

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KEY WORDS : X-linked adrenoleukodystrophy (X-ALD), Very long chain fatty acid (VLCFA), Adrenomyeloneuropathy

ABSTRACT

We, hereby, report a case of 33 years old men with 10 years history of progressive spastic paraparesis with bladder involvement. His MRI dorsal spine was suggestive of dorsal cord atrophy & on nerve conduction velocity he had sensorimotor axonal polyneuropathy affecting both lower limbs. His very long-chain fatty acids (VLCFA) levels were raised. His cortisol level was reduced. He is currently being treated with oral steroids & physiotherapy. Adrenomyeloneuropathy is a rare X-linked inherited disorder of peroxisomes. It is caused by mutations in the ABCD1 gene that encodes the peroxisomal membrane protein ALDP which is involved in the transmembrane transport of VLCFA ($\geq C22$). A defect in ALDP results in elevated levels of VLCFA in plasma and tissues. X-linked Adrenoleukodystrophy (ALD) has three main phenotypes: Addison-only, adrenomyeloneuropathy, and cerebral ALD. Cerebral ALD is further divided into childhood and adolescent/adult onset.

INTRODUCTION

X-ALD is the most common peroxisomal disorder. The adult neurologic variants of ALD affect approximately 30% of the males and 15% to 20% of female heterozygotes.² Adrenomyeloneuropathy (AMN) is the most common form.³ Patients develop gradually progressive spastic paraparesis, sensory ataxia, sphincter dysfunction, pain in the legs and impotence. Neuroimaging of brain is normal or may show moderately increased signal intensities of the pyramidal tracts in brainstem and internal capsules on FLAIR and T2 sequences and dorsal cord atrophy.¹

CASE PRESENTATION

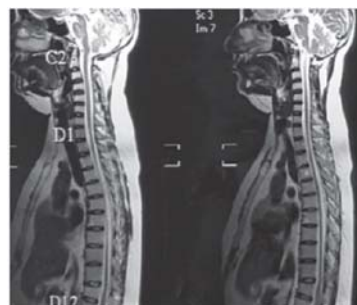
A 33 years old gentleman presented to our hospital with insidious onset gradually progressive both lower limb weakness with tightness (proximal followed by distal) & urinary urge incontinence since 10 years. He didn't have upper limb weakness, sensory complaints, back or neck pain. There was no seizure, loss of consciousness, memory impairment, abnormal behavior, decreased or double vision, dysphagia, dysarthria or nasal regurgitation of food. He didn't have blood transfusion or adolescent sexual exposure. At present, he is on crutch support. In past, he had history of generalized hyperpigmentation of skin. Patient was put on oral steroids with which he improved over time. Family history was unremarkable.

On general examination, he had cushingoid face. He had normal higher mental and cranial nerve function. On motor

examination, both lower limbs were spastic. Motor power was 3-/5 in both lower limbs proximally & 2/5 distally. Upper limb strength was normal. On sensory examination, there was impaired joint position & vibration sense up to both metatarsophalangeal joints. All deep tendon reflexes were 3+ except bilateral ankle hyporeflexia (1+) with bilateral extensor plantar response. Cerebellum, skull, back & spine were normal.

Routine lab investigations including hematological, biochemical parameters were within normal limits. CSF examination was also normal. HIV, HBsAg, HCV, RPR, ANA were nonreactive. B12 & Thyroid profile were within normal limits. MRI spine (figure 1) showed dorsal cord atrophy & Brain imaging (figure 2,3) was suggestive of T2 & FLAIR hyperintensity in pons, splenium of corpus callosum, bilateral peritrigonal white matter & left cerebellum. NCV study showed sensorimotor axonal polyneuropathy affecting lower limbs. Considering

Figure 1 (MRI spine: Dorsal cord atrophy)



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presenting symptoms and past history of hyperpigmentation, further investigations were planned. Serum cortisol was low (2.32 ug/dl) while ACTH level was normal. CT abdomen with contrast showed bilateral renal calculi with normal suprarenal glands. Based on clinical & typical MRI findings along with laboratory parameters, diagnostic possibility of adrenomyeloneuropathy was considered & VLCFA level was sent and it was suggestive of elevated levels of C26:0 & increased C26/C22 ratio. At present he is being treated with oral glucocorticoids as well as mineralocorticoids, antispasticity drugs & physiotherapy.

Figure 2 (MRI Brain T2 hyperintensity along internal capsule)



Figure 3 (MRI Brain; FLAIR hyeprintensity in bilateral corticospinal tract)



DISCUSSION

In 1976, an X-linked adult onset progressive myelopathy that was often associated with Addison's disease was reported.^{4,5} A year later, the term adrenomyeloneuropathy (AMN) was proposed. The phenotypes of X-linked ALD are childhood cerebral ALD, adolescent or adult cerebral ALD, adrenomyeloneuropathy, Addison's – only phenotype, atypical ALD and asymptomatic ALD. It is an X-linked peroxisomal disorder in which VLCFA, accumulate within cells (especially those in adrenal cortex, Leydig cells in testes and myelin producing cells) as a result of defective beta-oxidation within the peroxisome.⁶ The disease is caused by mutations in the ABCD1 gene that encodes the peroxisomal membrane protein ALDP, involved in the transmembrane transport of VLCFA. This defect results in elevated VLCFA in plasma and tissues. The neurologic syndrome is one of slowly

progressive spastic paraparesis, hyperreflexia with a symmetric distal neuropathy beginning in the 3rd or 4th decade of life. Sphincter disturbances (+/- sexual dysfunction), cerebellar ataxia and intellectual deterioration may occur as later manifestations. Adrenal function is normal in up to 30% of AMN patients.

Brain MRI is normal or show T2 & FLAIR hyperintensities of the pyramidal tracts in brainstem and internal capsules. MRI of the spinal cord shows dorsal cord atrophy. The definitive diagnostic test for ALD is the serum VLCFA particularly absolute concentration of C26:0 as well as the C24:0/C22:0 and C26:0/C22:0 ratios.⁶ Other tests include serum ACTH and baseline cortisol levels. The diagnosis is confirmed by ABCD1 mutation analysis. For AMN there is no effective disease modifying therapy available yet. Although Lorenzo's oil (LO) had great promise, the disease progresses even when plasma VLCFA are normalized by LO treatment. Other treatment options for AMN in research include lovastatin & antioxidants.

CONCLUSION

High index of clinical suspicion should be kept in any young male with long standing spastic paraparesis with bladder involvement with or without history of adrenal insufficiency. Typical clinical picture along with MRI findings helps in early diagnosis which is confirmed by elevated serum VLCFA levels & ABCD1 genetic analysis. Our case went undiagnosed for almost ten years until the evolution of neurological symptoms, which reveals the unawareness of this entity in developing countries.

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CASE REPORT

Supratentorial Recurrence of Medulloblastoma, A Rare Case Report

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KEY WORDS : Medulloblastoma, Recurrence

ABSTRACT

Medulloblastoma is the most common brain tumor in children accounting for approximately 20% of all childhood brain tumors and 40% of all paediatric posterior fossa tumours with 70% of cases below 10 years. The peak age incidence is 5 years. Initial therapy includes surgical resection and radiation of the entire neuro-axis. Recurrence is common and typically occurs within 2 years of initial diagnosis. We report a case of supratentorial recurrence 5 years after initial diagnosis. A 17 year old male presenting 5 years after initial diagnosis with isolated right frontal recurrence. Late recurrence to the supratentorial region is uncommon and long term follow-up is recommended in these patients.

INTRODUCTION

Medulloblastoma is the most common brain tumor in children accounting for approximately 20% of all childhood brain tumors and 40% of all pediatric posterior fossa tumours with 70% of all cases below 10 years¹. Occurrence in the adult population is also well documented, but only accounts for 1% of adult tumors.¹ Medulloblastoma is very aggressive tumour and recurrence is common even after adequate recommended treatment. Treatment includes surgical resection followed by radiotherapy of the entire neuro-axis with chemotherapy.^{2,3,4,5} Recurrence of this tumor is well recognized and may require salvage therapy. Time to recurrence typically occurs within two years of initial diagnosis in the pediatric population. The locations of recurrence most commonly present as posterior fossa, spinal, supratentorial and bony metastases.⁵ Spinal seedling is common but supratentorial recurrence is a rare phenomenon. Supratentorial recurrence is reported to be in the frontal and subfrontal region.^{4,5}

Case report: A 17-year-old male with a history of surgery for posterior fossa space occupying lesion (Figure 1) at 12 years of age, removed surgically with histopathology suggestive of medulloblastoma and treated with adjuvant craniospinal irradiation with chemotherapy presented with history of convulsion, headache and left sided weakness for 7 days. Patient was conscious and oriented. The right pupil was semidilated and sluggish reacting and left pupil was normal size and normally reacting. The left upper extremity had 4/5 strength. MRI Scan showed a space occupying lesion in right frontal region (figure 2). Patient

was operated with near total excision of tumor followed by radiotherapy. Patient is kept on regular follow up and is doing well and post-operative MRI scan suggested total clearance (figure 3)

Figure 1.

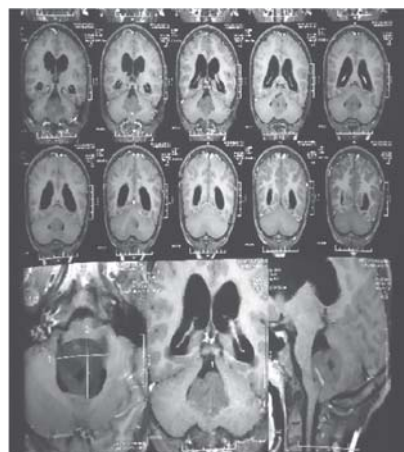
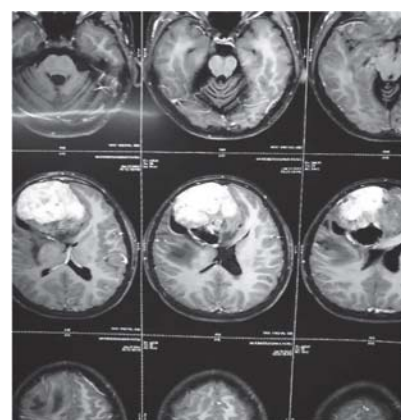


Figure 2.

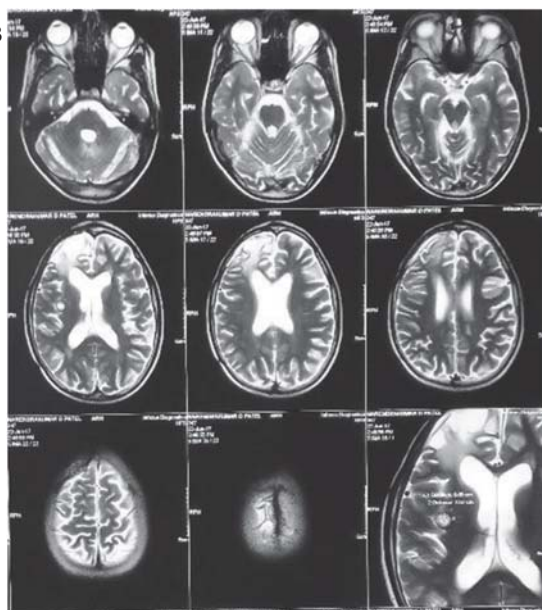


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Figure 3



DISCUSSION

Medulloblastoma, a malignant tumor typically arising from the cerebellar vermis in young children and lobes in older children, represents 4–8% of all intracranial tumors, and is the most common malignant central nervous system tumor of childhood, with approximately 80% occurring in patients under 15 years of age.^{4,6,7} It accounts for 15–25% of all childhood brain tumors in comparison with only 1% of adult intracranial neoplasms, with a slight male predominance in both groups.^{4,6,7,8} Although primary treatment of medulloblastoma is successful in a high percentage of patients, but early recurrence is seen in adults. Tumor recurrence may be either local or metastatic.⁹ Presenting features of medulloblastoma are generally related to hydrocephalus (found radiographically in 97% of patients) and cerebellar dysfunction which include: headache, nausea/vomiting, truncal ataxia, and unsteady gait.⁵ Approximately 83% are found in the midline in children, while 49% of adult tumors are lateral.⁷

Spinal metastasis are commoner than supratentorial metastasis.^{10,11} Supratentorial metastasis occur commonly in the frontal lobe, subfrontal region near the orbital roof or cribriform plate.^{4,5,12} Leptomeningeal metastasis are more common than supratentorial recurrences which appear as mass lesions.^{13,14} Medulloblastoma tends to seed the cerebrospinal fluid resulting in extensive leptomeningeal involvement, and treatment therefore requires surgical resection followed by neuro-axis radiotherapy and chemotherapy.^{15,16}

With the advent of CT scan and MRI, supratentorial metastasis would be seen more commonly than presumed earlier.¹⁷ Frequent supratentorial recurrences seen in the frontal and the subfrontal region have been

attributed to the pooling of the tumor cells in the prone position in the frontal region and also due to under-dose of radiation to that region.^{12,18} Hence it is recommended that medial frontal-basal cisterns to be included in the radiotherapeutic regime.

Age at diagnosis has been shown to be a significant predictor of time until relapse.⁸ The majorities of pediatric recurrences are within two years of initial diagnosis, and are in the posterior fossa.^{4,6,8} Those with tumor-free period equal to the age at diagnosis plus nine months may be considered cured (Collin's Law). Treatment of the recurrence with radiation, chemotherapy, or surgery can produce useful palliation in some patients.¹⁹ In view of the incidence of local recurrences, Sure (1995) recommended 3 monthly scan of neuraxis in the first three postoperative years and six monthly scans thereafter to catch early recurrences and metastatic disease.¹⁸

CONCLUSION

Recurrence of medulloblastoma is common and often occurs in the posterior fossa. Spinal dissemination of medulloblastoma is more common than supratentorial recurrences and known as drop metastasis. Supratentorial recurrence of medulloblastoma in frontal region is a rare phenomenon. We present a case of a 17 years old male who presented 5 years following his initial diagnosis of medulloblastoma with symptoms of supratentorial recurrence. Continued close follow-up is needed in pediatric patients after resection and radiation for medulloblastoma given their unexpected recurrence pattern.

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CASE REPORT

A case presentation of thyroid storm in a case of complete hydatidiform mole

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INTRODUCTION

Hydatidiform Mole (H. Mole) occurs in 1:1000 pregnancies worldwide. Incidence is higher in Asian countries. Prevalence of hyperthyroidism during complete molar pregnancy is as high as 7%^[1]. This is attributed to excess of Human Chorionic Gonadotropin (HCG), which has a weak intrinsic thyroid stimulating activity. Clinical hyperthyroidism due to trophoblastic disease is cured by evacuation of molar tissue. Here we present a case of thyroid storm in a case of complete H. Mole.

CASE REPORT

A 35 year old woman, gravida 5, para 4, presented to Emergency room with history of 2.5 months of amenorrhoea and complaints of intermittent vaginal bleeding. On examination, she had fever (101 degrees Fahrenheit), tachycardia (146 bpm) and a blood pressure of 122/84 mm Hg and tachypnea with respiratory rate of 30 breaths per minute. There was no exophthalmos and her extraocular movements were normal. The thyroid gland was palpable and of normal size. Cardiovascular examination revealed sinus tachycardia without murmurs, rub or gallops. Breath sounds were equal bilaterally, without rhonchi or wheezes. Pallor was present. There was no peripheral edema. Per abdomen examination revealed uterine size of 24-26 wks (much more than her history of amenorrhoea). There was bleeding p/v, with passage of white grape-like vesicles.

Ultrasonography of her enlarged uterus revealed that the uterine cavity was significantly distended and filled with an echogenic soft-tissue mass that had small cystic components, most compatible with complete molar pregnancy. Theca lutein cysts were present in both ovaries.

Her investigations revealed an haemoglobin level of 7.3 gm/dl, total count, differential leucocyte count and platelet count were normal, RBS was 63 mg/dl, Beta-HCG

>10000 and a positive urine pregnancy test. Her Thyroid Function Tests revealed a S.TSH of 0.009 (normal value 0.27-4.20 microIU/ml), fT4 5.59 (normal value 0.8-2.0 ng/dl) and T3 465 (normal value 40-180 ng/dl). Chest X-ray was normal.

As it was a case of thyroid storm, patient was shifted to ICU and hyperthyroidism was controlled by giving T. Propranolol (40) 1-0-1 and T. Carbimazole (10) 1-1-1. Supportive treatment was given in the form of intravenous fluids, injectable antibiotics, antipyretics and Inj. Dexamethasone (8 mg) 8 hrly. Anaemia was corrected by giving Inj. PCV 3 units (1 unit/day). On her 2nd day in ICU, her S. Potassium was found to be low (2.81) (normal value 3.8-5.6 mEq/L). Hence potassium correction was done by giving Inj. KCl 2 amp in 500 ml NS over 6 hrs.

When patient was stabilized on 3rd day, suction-evacuation was carried out under sedation (Inj. Propofol 150 mg + Inj. Fentanyl 100 microgram) and paracervical block (Inj. Lignocaine 2% 10 ml). Post-operatively, patient was given intravenous fluids and injectable antibiotics. T. Propranolol was stopped on 1st post-op day. T. Carbimazole was continued. Dexamethasone was tapered and stopped in the next 4 days. She was discharged on 7th day with advice to follow-up regularly with beta-HCG levels and to use barrier contraceptives until the beta-HCG levels returned to normal.

DISCUSSION

Abnormal proliferation of trophoblast leads to formation of H. Mole. Since trophoblast produces HCG, there is excess of HCG in such patients. Gestational Trophoblastic Disease (GTD) with thyrotoxicosis is a rare clinical scenario, but thyroid hyperstimulation by HCG can have severe clinical consequences. Complete H. Mole most commonly presents with vaginal bleeding occurring at 6 to 16 weeks of gestation in 80 to 90% of cases^[2]. Tisne et al reported the first case of clinical hyperthyroidism in a patient with hydatidiform mole in

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1955^[3]. The glycoprotein hormone HCG is a specific tumour marker for trophoblastic diseases. The analogy in the structure between HCG and TSH can cause cross-reactivity with their receptors. It has been shown that the homology in the HCG and TSH molecules, as well as in their receptors, is likely to be responsible for the cross-reactivity of HCG with the TSH receptor^[4]. Glinoeer has estimated that for every 10000 mIU/ml increase in serum HCG, free T4 increases by 0.1 ng/dl and TSH decreases by 0.1 mIU/ml^[5]. Molecular variants of HCG found in molar pregnancies have increased thyrotropic potency^[6]. Use of both general^[7] and spinal^[8] anaesthesia has been reported for evacuation of the mole. General anaesthesia maybe the preferred technique in hypotensive bleeding patients scheduled for emergency evacuation. In stable patients, spinal anaesthesia is preferable due to its non-tocolytic properties and safety in hyperthyroid patients. Intravenous fluids and blood must be administered judiciously as these patients have a propensity to develop pulmonary edema. Thyroid storm is an extreme accentuation of thyrotoxicosis. Marked tachycardia, arrhythmias, pulmonary edema and congestive cardiac failure may occur^[9]. If unrecognised, the condition is invariably fatal. Combined use of propylthiouracil, iodide and dexamethasone restores serum T3 concentration to within normal range within 24 to 48 hours. In the absence of cardiac insufficiency, beta blockers to ameliorate symptoms should be started preoperatively.

CONCLUSION

Women with a history of molar pregnancy are at a risk of further molar pregnancies. Much has been reported in the literature about the incidence, recurrence and persistence of H. Mole. Thyroid Function tests should be mandatory in all women with hydatidiform mole and these women should be stabilized with beta blockers and anti-thyroid medication prior to induction of anaesthesia for their surgical evacuation. Vigilant monitoring and intensive care should be extended into the post-operative period because there is a likelihood of occurrence of cardiopulmonary complications, thyroid storm and disseminated intravascular coagulation.

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GUJARAT MEDICAL JOURNAL

Official Journal of Indian Medical Association, Gujarat State Branch

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