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STATE PRESIDENT'S MESSAGE

Dear Doctor friends,

Wishing you all Vikram Savant 2080 a very Happy & Prosperous year. After week Long Festival Vacation. Once Again we are back on work, As I am too as a President. To Express My feeling. I begin with you a small story.

હાલમાં જ પશ્ચિમ બંગાળના કલકત્તામાં વિશ્વનો સૌથી મોટો તહેવાર દુર્ગાપૂજા ઊજવાયો. અહીં રસ્તાઓ, મકાનો અને પાર્કથી માંડીને આખું શહેર કલા અને ભક્તિમાં રંગાઈ જાય છે. છેલ્લા ૨૦૦ થી પણ વધુ વર્ષોથી ગંગા નદીના કિનારે આવેલ ત્રણ એકર જેટલા વિસ્તારમાં કુંભારટોલીમાં શિલ્પકાર-કારીગરો માતાની મૂર્તિઓ બનાવવામાં લાગી જતાં હોય છે. દરેક કારીગરને મૂર્તિની સાઈઝ પ્રમાણે ૩ થી ૬ મહિના મૂર્તિને બનાવવામાં થાય છે. નાનામાં નાની બારીકાઈને ધ્યાનમાં લઈને વારંવાર ફેરફાર કરતાં-કરતાં એ આખરે પંડાલમાં કલરકામ, સાજ-શણગારની સાથે વાજતે-ગાજતે સરઘસ સાથે હર્ષ-ઉલ્લાસથી તેનું સ્થાપન થાય છે. અને જ્યારે તેની પૂજા-અર્ચના-આરતી થયા બાદ દર્શનાથીઓ ભક્તિભાવપૂર્વક લાંબી લાઈનમાં રાહ જોતાં દર્શનનો લાભ મેળવતાં હોય છે. આશરે ૨૦૦૦થી પણ વધારે સ્થાપિત થનારા નાના-મોટા પંડાલોમાં એ મૂર્તિ બનાવનાર શિલ્પકાર-કારીગર પણ શિસ્ત-અદબ અને પૂરા આદરભાવ સાથે દર્શન માટે આતુરતાથી રાહ જોતાં જોતાં દર્શનના લાભ લેતો હોય છે.

૧૦ નવેમ્બર, ૨૦૨૩ ઘનતેરસના પાવક અને પવિત્ર દિવસે જ્યારે મેં IMA-GSB માં ઓફિસ જોઈન કરી ત્યારે મારી હાલત પણ કંઈક એ મૂર્તિ જેવી જ હતી. મને ઘડનાર, બનાવનાર, કેળવણી આપનાર મારા શિલ્પકારોએ મને મારા સ્થાને સ્થાપિત કર્યો. મને ચોક્કસ એ બાબતનો ખ્યાલ હતો કે આ કશું જ વ્યક્તિગત નહોતું પણ પ્રમુખ IMA-GSB પ્રત્યેનો એમનો અને આપ સર્વનો આદર હતો. સેક્રેટરી ડો. મેહુલ શાહ, ડો. બિપિન પટેલ, ડો. યોગેન્દ્ર મોદી, ડો. કિરીટ ગઢવી, ડો. નવનીત પટેલ, ડો. જશવંત દરબાર, ડો. કમલેશ સૈની, ડો. આશિષ ભોજક અને ડો. ધીરેન મહેતા તેમજ તમામ ઉપસ્થિત હોદ્દાઓએ બહુજ ઉંડાણપૂર્વક માહિતીસભર ચર્ચા કરી.

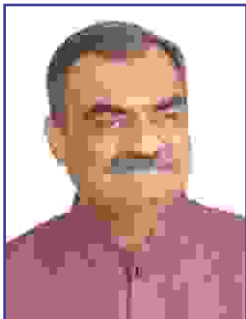
આ સાથે જ ખાસ AMA તરફથી ડો. તુષાર પટેલ અને ડો. ઉર્વેશ શાહ, ડો. ગાર્ગીબેન પટેલ અને ઉપસ્થિત તમામ હોદ્દાઓ અને સભ્યોએ મને ઘનતેરસની પૂજામાં સામેલ કર્યો અને શુભેચ્છાસહ આવકાર્યો એ બદલ દિલથી આભાર.

I must congratulations to Dr. Tushar Patel, President & All AMA members for hosting Public Open Session of “હૃદયની સંભાળ માટે હૃદયથી સંવાદ કાર્યક્રમ” at Ahmedabad on 9th November. Renowed Cardiologist has given Lucid speech & clear Answer on young sudden Cardiac Death. After This Eye-opener Programme, we will take this challenge. Rajkot is plan to host such programme on 10th December, 2023 - Sunday.

I also congratulations Our Diabetologist for spreading Excellent Information on 14th November, World Diabetes Day, There will be lot many various kind of Activities in pipeline & keep you Informed by IMA-GSB. please participate & I hope & pray that Together we can make IMA -GSB More Vibrant.

Jay IMA

DR. BHARAT M. KAKADIA
President, G.S.B., I.M.A.



HON. STATE SECRETARY'S MESSAGE

Dear Esteemed Doctors of Gujarat,

Excitingly welcoming the new IMA Gujarat team dedicated to propelling our doctors of IMA Gujarat to new heights. Together, let's achieve milestones, focusing on community health, disease prevention, and supporting young doctors. Share ideas with us, let's exceed expectations for a lasting impact on our community's well-being. New Team's enthusiasm, dedication, and innovative ideas will drive many new initiatives. Together, let's script a new chapter for doctors of IMA Gujarat.

Committed to community health under "Aao Gaon Chalen", the new team implements ground breaking disease prevention programs, making a significant impact. Let's showcase skills and compassion to define our profession. Supporting young doctors is crucial; IMA Gujarat ensures comprehensive assistance, empowering the next generation for a robust healthcare future in Gujarat.

In response to the escalating number of heart attack cases in our state, IMA Gujarat is taking proactive measures by organizing specialized programs, particularly seminars focused on the screening and prevention of this critical health issue. These seminars aim to raise awareness among the population about the importance of early detection and adopting preventive measures. Through informative sessions and interactive discussions, we aspire to empower individuals with knowledge that can significantly contribute to reducing the incidence of heart attacks.

IMA Gujarat is unwavering in its commitment to nurturing and supporting the young generation of doctors, as well as medical undergraduates and postgraduates, in their academic and non-academic pursuits. Our aim is to provide comprehensive assistance that empowers them to achieve new milestones in their professional journeys. Whether it's excelling in academic endeavors or navigating the various challenges of a medical career, IMA Gujarat is dedicated to fostering the growth and success of the emerging healthcare professionals. Together, we strive to build a foundation that propels the next generation toward excellence in both academic and non-academic facets of the medical field.

We invite all doctors to actively participate in these seminars, lending their expertise to enrich the discussions and collectively work towards creating a healthier and more informed community. Together, let's make a substantial impact on the well-being of our society by promoting preventive healthcare strategies.

Your involvement is pivotal. Let's collaborate, innovate, and inspire a legacy of healthcare excellence. Together, we uplift medical practice standards in Gujarat.

Best Regards,

Dr. Mehul J. Shah
(Hon. State Secy., G.S.B., I.M.A.)

FROM THE DESK OF EDITORS



Dear friends,

Season's Greetings from Gujarat Medical Journal, IMA-GSB !

We are thankful to all the central council members of GSB IMA for putting their faith, trust and confidence in us and giving the charge of prestigious Gujarat Medical Journal (GMJ) for this year. On our side, we promise to see that the faith and trust that is put in us is full filled and for that, we shall try our best.

Here, we want to tell our members about the procedure that we are adopting in selection of an article for GMJ. We ask the author to send the article on CD, and three physical copies, of which one copy bears names, addresses, etc., of authors but two other copies, don't have any name or address of authors, they contain only the material of the article. On receiving this our office clerk puts code number on it. Articles are known from its code number only. GMJ editor is given the copy which doesn't have the name, etc. of the author. And editor then sends the said article for review to a retired professor or HOD or having that level of expertise in the subject (whom we call "referee" or "reviewer"). So the reviewer also doesn't know about the author. This procedure is adopted since years and we shall continue that.

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. 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. Now we have about three dozen medical colleges (and few new will start functioning from next year). Many of them are in smaller towns also. That will help us in collecting data from urban and rural areas. 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. We appeal our colleagues to send their research articles and papers for publication in GMJ. This will help our other colleagues and also government in handling and controlling certain diseases. Government will also be able to determine where more efforts are required.

Without making any compromise with our laid down policy, we have made all the efforts to make GMJ more informative, more interesting and more popular 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 have created our own online article submission and management portal at gmjonline.in, which is ready to be operational. We prepared it with use of OJS software.

The requirement for DOAJ Indexation is completed and within short time we shall apply for that also. By the time we are indexed with Index Copernicus International.

Our sincere thanks to GSB President Dr. Bharat Kakadia and Hon. Secretary Dr. Mehul Shah for encouragement and suggestions, and giving us free hand in publication of this journal. We are grateful to them. We are also grateful to GSB past presidents Dr. Jitubhai Patel, Dr. Mahendrabhai Desai, Dr. Kirtibhai Patel, Dr. Bipinbhai Patel & Dr. Yogendrabhai Modi for their guidance and help. Dr. Urvesh Shah, Dr. Chinmay Shah, Dr. Ashish Bhojak, Dr. Divyeshkumar Panchal and their team worked very hard for online platform & try to getting our journal at par with the requirement of NMC norms.

With regards,

DR. KAMLESH B. SAINI

Editor-IMA-GSB-GMJ

DR. KIRIT C. GADHAVE

Hon. Secretary-IMA-GSB-GMJ

DR. HARSHAD C. PATEL

Jt. Editor-IMA-GSB-GMJ



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CONTENTS

* State President's Message	20
* Hon. State Secretary's Message	21
* From the Desk of Editors.....	22

ORIGINAL ARTICLE

* Granular Cell Tumour – A Case Series Dr. Bhumika Baria*, Dr. Amit Agravat**, Dr. Gauravi A. Dhruva***	25
* A Cross Sectional Study of Depression Anxiety and Stress in First Year DMLT Students Dr. Shital Parmar, Dr. Chinmay J Shah, Dr. Ashvin Sorani.....	31
* A cross sectional study on vehicle ownership and its impact on study, leisure, social activities and academic performance of medical students in Govt medical college, Bhavnagar city. Dr. Rishab Biradar*, Dr. Rajan Desai**, Shyam Patel**, Shyam Jotana**, Smit Patel**, Sohan Saini**, Stanav Dave***	34
* Study of Fetomaternal outcome in Case of Twin Pregnancy Dr. Naaz Mansuri*, Dr. Prerak Modi**, Dr. Rinky Agrawal***, Dr. A. U. Mehta****	42
* Prospective Study on Emergency Peripartum Hystrectomy in Tertiary Care Centre Gujrat Dr. Anvar H Sipai*, Dr. Kamal D Goswami**	47

CASE REPORT

* A Rare Case of 38 Weeks Foetus with Complex & Multiple Congenital Anomalies/Malformations Dr. Shaiv Nalin Patel*, Dr. Anil K. Patel**, Dr. Nalin G. Patel***, Dr. Manan Jani****	52
* A Case of Central Retinal Vein Occlusion Post COVID Vaccination Dr. Antariksh Mohta*, Dr. Vaibhavi Noticewala**	55
* Posterior Forniceal Rupture in Pregnancy *Dr. Amisha Jayvantkumar Hemnani, **Dr. D.C. Parmar, ***Dr. Ranjit Chaudhary.....	57
* A rare case of bronchiectasis with superimposed ILD secondary to ? cause- Sjogren Syndrome vs Rheumatoid Arthritis *Dr. Jinal Shah, *Dr. Prasen Shah, **Dr. Pramod R Jha.....	59
* Management of bicornuate uterus non-communicating rudimentary uterine horn: A case report Dr. Prachi Gupta*, Dr. Dipti C Parmar**	62

Granular Cell Tumour – A Case Series

Dr. Bhumika Baria*, Dr. Amit Agravat**, Dr. Gauravi A. Dhruva***

*Resident Doctor, **Professor, ***Professor and Head, Department of Pathology, P.D.U. Government Medical College and Hospital, Rajkot.

KEY WORDS : Granular, Benign, Rare Tumour.**ABSTRACT**

Background: Granular cell tumour is the soft tissue tumour with neuroectodermal differentiation composed of large cells with eosinophilic, granular cytoplasm. It is very rare, predominantly benign soft tissue tumour involving a wide variety of sites. It shows wide age range, though most common in 30 – 50 year olds but rare in children <5 years or adults >80 years and it shows slight female predominance. **Material And Methodology:** The present study was undertaken in the department of Pathology, P.D.U. Government Medical College, Rajkot. All the five specimens were fixed in 10% formalin overnight, processed, blocks were made and sectioning was done and stained with Harris haematoxylin and Eosin stain. **Result:** A series of five cases of granular cell tumours in five patients. All tumours were benign. Females were more affected than males. Common age group affected was in third decade. Most common site affected in the present study was tongue, followed by one case each at supraclavicular region, over phalanx of finger and back. **Conclusion:** Most granular cell tumours are benign and cured by simple resection. Although granular cell tumours are usually benign and slow growing, it is difficult to distinguish them from malignant lesions. Therefore, it is very important that clinicians and pathologists are aware of their clinical and histopathological features^[1,7].

INTRODUCTION

Granular cell tumors (GCTs), also known as Abrikossoff's tumors, are rare neoplasms first discovered in 1926 by Abrikossoff and originally thought to arise from smooth-muscle tissue^[1,2].

The dispute, over many years, as to whether granular cell tumour represents a metabolic, degenerative, or neoplastic process has been resolved in favour of the neoplastic view. However, it should be noted that, although most granular cell neoplasms are probably neuroectodermal in nature, on the basis of their immunophenotype and close association with nerves, this is by no means true of all lesions showing this distinctive pattern of granular cytoplasmic change^[3].

In the decades following, immunohistochemical and ultrastructural studies of the affected cells revealed that they are actually of neural-crest cell origin, derived from Schwann cells that are normally responsible for the production of myelin around neuronal axons in the peripheral nervous system^[4].

GCTs are most commonly benign, with only 1–2% of cases presenting as malignant, and usually occurring in

middle-aged females^[5]. GCTs can be found anywhere in the body, but commonly affected areas include the tongue, head, neck, and subcutaneous tissues^[6].

Granular cells in GCTs are histopathologically characterized by cytoplasmic granulation manifesting as microtubules, microvesicles, myelinic structures, and high-density regions^[7]. The myelinic component of the granules, marked by the presence of sphingomyelin and lipoproteins, is one indicator that GCTs originate from Schwann cells^[5].

Granular cells have also tested positive for protein S-100, associated with neurodegeneration, and neuron-specific enolase, providing further support for GCTs' affiliation with Schwann cells^[4].

There are reports of congenital lesions, most of which arise in the gingiva, but such lesions are S-100 negative and probably represent distinct entity (congenital epulis)^[8].

MATERIAL AND METHODS

The following cases were diagnosed in Cytopathology and Histopathology laboratory, Department of Pathology, P.D.U. Government Medical College and hospital, Rajkot.

Correspondence Address : Dr. Bhumika Baria, Department of Pathology,
P.D.U. Government Medical College and Hospital, Rajkot.
Email : bhumikabaria2@gmail.com

Cytopathology: First, the skin is cleaned with antiseptic solution and mass is immobilized with thumb and finger of non-aspirating hand, then 22 or 23-gauge needle, which is attached to disposable 10 ml syringe is pierced into the mass. When needle reaches the mass, the plunger of the syringe is drawn out, thus creating a negative pressure in the syringe and needle lumen. The needle is moved to and fro several times and moved in different directions so as to collect samples from different areas around. The needle is then withdrawn and pressure applied to puncture site, with sterile cotton swab.

The material obtained in the syringe is spread on many slides. Some of them are fixed immediately in methanol for Hematoxylin and Eosin stain while some are kept air dried and then fixed in methanol for May Grunewald Geimsa stain.

Histopathology: Received specimens were fixed in 10% formalin; following fixation of 12 hours, sections were passed through the steps of dehydration, clearing and impregnation and embedding in paraffin, finally block preparation, cutting done and sections were stained with Harris Haematoxylin and Eosin stain and made ready for microscopic examination.

RESULTS

Case 1

A 30 year old female patient came to Otorhinology Outdoor Patient Department (OPD) with complain of swelling over right supraclavicular region (Figure 1). Size of the swelling was 7 x 5 cm and swelling was slow growing, non-mobile, non-tender and firm in consistency.

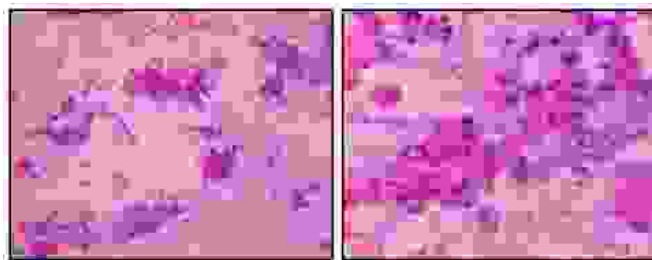
Radiological examination (MSCT scan of neck and thorax) showed lesion of size 52 x 47 x 52 mm which was suggestive of neoplastic lesion.

Fine Needle Aspiration Cytology was done and blood mixed material aspirated.

Figure 1: Shows FNAC site: Right supraclavicular region swelling



Figure 2 : (10x and 40x) shows microscopic examination of fine needle aspiration cytology



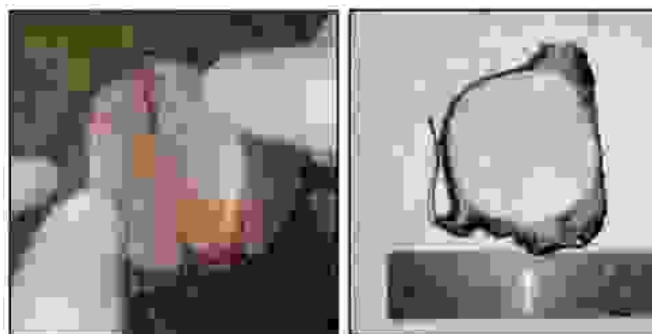
Microscopic examination (Figure 2) shows high cellularity which contained tumour cells that were arranged in clusters and irregular sheets. Cells showed abundant and syncytial eosinophilic cytoplasm with mild to moderate anisonucleosis, nuclei showed fine chromatin and at places distinct small nucleoli. All tumour cells showed oncocyctic material. Background was blood mixed.

Diagnosis: The lesion was diagnosed with three possibilities, first being Alveolar soft part sarcoma followed by Rhabdomyosarcoma and Rhabdomyoma.

Excisional biopsy was done and specimen was sent to histopathology laboratory.

Gross Examination (Figure 3): Skin covered tissue received size measuring 7 x 5 x 4.5 cm. On cut surface mass was uninodular, well defined, firm, yellowish white with fine granular texture.

Figure 3: Shows uninodular, well defined, firm, yellowish white with fine granular cut surface



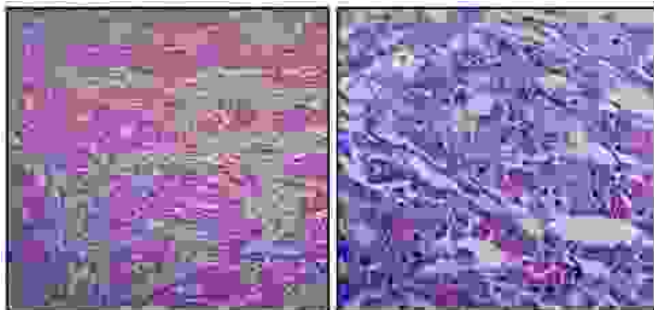
Microscopic Examination (Figure 4 (10x) and (40x)): Studied sections from mass show tumour cells arranged in sheets and lobules. Tumour cells having eosinophilic, granular cytoplasm with hyaline bodies seen in few tumour cells with eccentric blend, homogenous nuclei seen. Margins are free from tumour cells.

Overall findings are in favour of

? Rhabdomyoma.

?? Granular Cell Tumour.

Figure 4: Low power and High power view



For confirmatory diagnosis, IHC was performed and tumour cells are immunopositive for **S100** and **SOX10** and are immunonegative for Desmin, CD34 and Pancytokeratin.

Final Diagnosis: Granular Cell Tumour.

Case 2

A 28 year old male patient came to Otorhinolaryngology Outdoor Patient Department (OPD) with complain of small painless nodule over mucosal surface of tongue. Size of the swelling was 2 x 1.5 cm and swelling was slow growing, non-mobile, non-tender and firm in consistency.

Excisional biopsy was done and specimen was sent to histopathology laboratory.

Gross examination (Figure 5): Tissue received size measuring 1.5 x 1 cm. Uninodular, well defined mass received. Cut surface is yellowish, firm. Whole tissue is passed for histopathological examination.

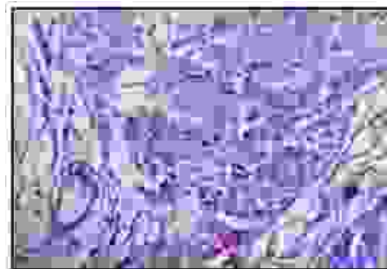
Figure 5



Microscopic examination (Figure 6): Tumour cells arranged in sheets, nests or ribbons separated by thin collagenous band. Cells are round and polygonal to slightly spindle shaped. Cells show small and dense to large, vesicular nuclei and abundant granular eosinophilic cytoplasm.

Overall findings are suggestive of **GRANULAR CELL TUMOUR.**

Figure 6



Case 3

A 21 year old female patient came to Surgical Outdoor Patient Department (OPD) with complain of swelling over 3rd phalanx of left hand. Size of the swelling was 1.5 x 1.5 cm and swelling was slow growing, non-mobile, non-tender and firm in consistency.

Excisional biopsy was done and specimen was sent to histopathology laboratory.

On gross examination (Figure 7): Tissue received size measuring 1.3 x 1.1 x 0.6 cm. Greyish white to brown, firm. Whole tissue is passed for histopathological examination.

Figure 7



Microscopic examination (Figure 8): Studied section shows proliferation of clusters of large polygonal cells with abundant granular eosinophilic cytoplasm and uniform small nuclei separated by fibrovascular stromal tissue. At places, cells are oval to spindle in shape. No nuclear atypia seen.

Overall findings are in favour of **BENIGN SOFT TISSUE NEOPLASTIC LESION- GRANULAR CELL TUMOUR.**

Figure 8



Case 4

A 36 year old female patient came to Otorhinolaryngology Outdoor Patient Department (OPD) with complain of small painless nodule over dorsal surface of tongue. Size of the swelling was 1 x 1 cm and non-tender, firm in consistency.

Excisional biopsy was done and specimen was sent to histopathology laboratory.

Gross examination (Figure 9): Tissue received size measuring 1 x 0.8 cm, greyish white, firm. Whole tissue is passed for histopathological examination.

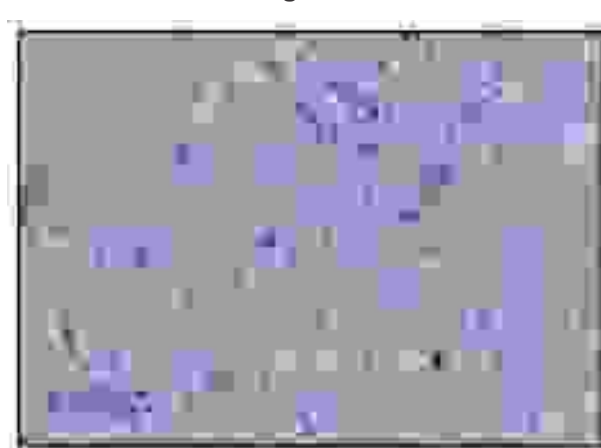
Figure 9



Microscopic examination (Figure 10): Tumour cells arranged in sheets and nests separated by collagenous band. Cells are round to slightly spindle shaped. Cells shows small, vesicular nuclei and abundant granular eosinophilic cytoplasm.

Overall findings are suggestive of **GRANULAR CELL TUMOUR**.

Figure 10



Case 5

A 42-year-old female patient came to Surgical Outdoor Patient Department (OPD) with complain of slow growing mass on back. Size of the swelling was 3 x 2 cm and swelling was non-mobile, non-tender and firm in consistency.

Excisional biopsy was done and specimen was sent to histopathology laboratory.

Gross examination (Figure 11): Well defined skin covered tissue received size measuring 2.5 x 1.6 cm. Cut surface was yellowish and firm in consistency.

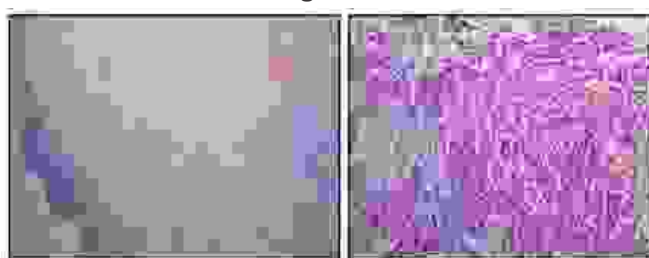
Figure 11



Microscopic examination (Figure 12): Studied sections show diffuse infiltration of the dermis with tumour nests. Cells shows small, round to oval nuclei and abundant granular eosinophilic cytoplasm.

Overall findings are suggestive of **GRANULAR CELL TUMOUR**

Figure 12



DISCUSSION

Granular cell tumour was originally named granular cell myoblastoma, but currently, granular cell tumour is considered to be neural in origin according to immunohistochemical studies^[9]. Granular cell tumour accounts for 0.5% of all soft-tissue tumors^[10].

In the literature, there is a female preponderance, and usually, the reported cases occurred between the fourth and fifth decades^[11].

These tumors mostly present as a painless mass in the subcutaneous tissue; however, they may rarely be multicentric at the time of diagnosis. Familial cases and cases of congenital granular cell tumour have been reported to be associated with multiple lesions^[12].

The tumour can be localized on the skin or submucosa of various locations. In 30-45% of cases, granular cell tumour affects the skin, followed by the area of the head and neck, where the most common location is the tongue and oral cavity^[13].

Granular cell tumour of the skin mostly presents with asymptomatic slow growing solitary nodule with overlying normal skin. Since the clinical presentation of cutaneous granular cell tumour does not have any specific features, it is not always considered in the differential diagnosis.

The diagnosis of granular cell tumour is mostly reached by a histopathological examination with immunohistochemical staining. Histopathologically, granular cell tumour is composed of large cells with an eosinophilic granular cytoplasm. This granular appearance is the result of secondary dense cytoplasmic lysosomes. These cells contain a large amount of dense cytoplasmic lysosomes which yield a granular image under the microscope. These granules are Periodic acid-Schiff positive and diastase resistant.

In granular cell tumour, immunohistochemical stains are positive for S100, neuron-specific enolase, and vimentin, whereas tumoral cells are not stained with epithelial, melanocytic, muscle, endothelial, and glial cell markers. This staining pattern is also suggestive of a Schwann cell origin^[12].

The clinical differential diagnosis of granular cell tumour in the subcutaneous tissue includes dermatofibroma (fibrous histiocytoma), lipoma, adnexal tumors, neurofibroma, and schwannoma, all of which could be differentiated by histopathological and immunohistochemical features^[14].

Granular cell tumour mostly behaves in a benign fashion, but malignant transformation can be recognized in 1-2% of cases. The most common metastatic sites are regional lymph nodes, lungs, and bones. It is a challenge to predict the malignant behavior at the time of diagnosis. When the tumor size is >4 cm, the risk of malignancy is increased.

Fanburg-Smith criteria^[15]:

Necrosis, tumour cell spindling, vesicular nuclei with large nucleoli, >2 mitosis/10 high power fields, high nuclear to cytoplasmic ratio and pleomorphism.

Grade 0: Benign

Grade 1-2: Atypical

Grade >= 3: Malignant

Nasser-Ahmed-Kowalski criteria^[16]:

Necrosis and > 2 mitosis/10 high power fields

Grade 0: Benign

Grade >= 1: Granular cell tumour with uncertain malignant potential

Metastasis was the only criteria to diagnose malignant granular cell tumour.

The treatment of choice in granular cell tumour is a local wide excision with clear margins. Radiotherapy and chemotherapy have not shown to be effective in the clinical course of recurrent or malignant disease^[10].

CONCLUSION

The outcomes of granular cell tumors depend in part on whether the lesions are malignant or benign. Benign tumors have excellent outcomes with wide local excision and rarely recur or metastasize.

We present a series of five cases of granular cell tumours in five patients. All tumours were benign. Females were more affected than males. Common age group affected was in third decade. Most common site affected in the present study was tongue, followed by one case each at supraclavicular region, over phalanx of finger and back.

Although oral neural neoplasms are uncommon, they should be included in the differential diagnoses for oral soft tissue lesions. Additionally, if diagnosed, the clinician should be mindful of the associated syndromes as this may play an important role in the early diagnosis, prognosis and improved long-term patient outcome. Significant variation exists in demographics, clinical appearance, and histologic findings with regards to these neoplasms therefore both clinicians and pathologists should be sentient in order to best refer and if required manage their patients.

Although granular cell tumours are usually benign and slow growing, it is difficult to distinguish them from malignant lesions. Therefore, it is very important that clinicians and pathologists are aware of their clinical and histopathological features^[17].

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જાહેર પરિસંવાદ

અચાનક આકસ્મિક યુવાઓ નું હૃદય રોગથી થતાં મોત અંગે.



IMA હિલ્થી યુવા હૃદય સુધી



તારીખ : ૧૦ ડીસેમ્બર, ૨૦૨૩ - રવિવાર

સમય : સવારે ૧૦-૦૦ કલાકે થી ૧૨.૩૦ સુધી

સ્થળ : શ્રી હેમુગટવી ઓડીટોરીયમ, ટાગોર રોડ, રાજકોટ.

- વક્તાઓ : ડૉ. શ્રી તેજશ પટેલ - પદ્મશ્રી એવોર્ડી, જાણીતા આંતરરાષ્ટ્રીય કાર્ડિયોલોજિસ્ટ, અમદાવાદ.

શ્રી સાંઈરામ દવે - કેળવણીકાર અને સાક્ષર, રાજકોટ

- પરિસંવાદ : રાજકોટ ના કાર્ડિયોલોજિસ્ટ અને વિષેજ્ઞ ભાગ લેનાર

- ઉપસ્થિતિ : ડૉ. ભરત કાકડીયા - પ્રમુખ શ્રી ડૉ. મેહુલ શાહ - માનદ્ મંત્રીશ્રી
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IMA રાજકોટ બ્રાંચ

ડૉ. પારસ શાહ
પ્રમુખ

Original Article

A Cross Sectional Study of Depression Anxiety and Stress in First Year DMLT Students

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KEY WORDS : Depression, Anxiety, Stress, First year DMLT Student DASS -21 Scale

ABSTRACT

Introduction

Depression is a mental disorder characterized by depressed mood, loss of pleasure, reduced energy and activity, decreased self-esteem, decreased attention with changes in appetite, and sleep disturbances and can even lead to ideas and acts of self-harm and suicide.⁽²⁾ Anxiety is characterized by the feeling of tension, nervousness, worried thoughts, and physical changes such as sweating, trembling, and increase blood pressure.⁽³⁾ Stress is a physiological and psychological stimulus that causes bodily or mental tension⁽⁴⁾. Depression and anxiety are both common mental disorders with a prevalence of 10-44% in developing countries. In first year, student stress is more common due to their long study hour, examinations and peer competition, sleep deprivation and other factor.⁽⁵⁾

Material And Method

This cross- sectional study was conducted on 124 first year DMLT students of government medical college Bhavnagar. Pre -structured DASS-21 questionnaire-based study was conducted through Google form after obtaining written consent from students. Study was approved by the ethics committee of government medical college Bhavnagar.

Result

The overall prevalence of depression, anxiety and stress among the first year DMLT Student was found to be 13(33.5%), 13(28.4%), 2(4.85%) respectively. Out of 124 questionnaires distributed, 83 were received. The majority of students had mild to moderate level of depression, anxiety and stress reported Academic stress as their common stressor. Very few students in severe level of depression, anxiety and stress. The mean age of study participants was (21.26±2.54) years. Prevalence of depression, anxiety and stress among male is 9(25%), 6 (12.26%) and 1(2.7%) respectively and female 4(8.5%), 7(16.14%) and 1(2.12%) respectively.

Conclusion

It recommended to implement screening programs including assignment of professional counsellors and mentors to help and identify student suffering from symptoms of depression anxiety and stress.

INTRODUCTION

Depression is a mental disorder characterized by depressed mood, loss of pleasure, reduced energy and activity, decreased self-esteem, decreased attention with changes in appetite, and sleep disturbances and can even lead to ideas and acts of self-harm and suicide. Anxiety is characterized by the feeling of tension, nervousness, worried thoughts, and physical changes such as sweating, trembling, and increase blood pressure. Stress is a physiological and psychological stimulus that causes bodily or mental tension. In first year student depression, anxiety and stress are common due to competition, living far from home, peer pressure and hectic life style schedule.

METHOD

This is descriptive cross – sectional study conducted among first year DMLT student of government medical collage Bhavnagar. objectives of study is to asses various level of depression, anxiety and stress in first year DMLT students and identify the common stressor among student. First year DMLT student choose specifically because there are lesser studies in Gujarat which target this group . The study was approved by the ethics committee of government medical collage Bhavnagar. The study was conducted between October and November 2023. At the time of study, there were 124 students enrolled in the first year DMLT students . out of 124 questionnaire distribute , 83 was received . Two sets

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of questionnaire were used in this study. The first set was a self – administered questionnaire focussing on sociodemographic data which was related to age , sex , living condition and others . Another questionnaire including stressors like academic stress , hectic life style , broken relationship and family problems .Second set of questionnaire include pretested depression , anxiety and stress scale (DASS-21 scale).DASS is self-reported 21 item questionnaire developed by Lovibond proposed by the Australian psychological society to measure the emotional state depression , anxiety and stress. Each of the subscale containing 7 item and each item a four – point severity scale “0” for “Did not apply to me at all”, “1” for “Applied to me to some degree”, “2” for “Applied to me considerable degree”, and “3” for “Applied to me very much”.⁽¹⁾ Scores for depression, anxiety, and stress are calculated by summing the score of the relevant item and it evaluates the severity of participant’s experiences over the last week.⁽¹⁾ Informed consent was taken from student before distribution of questionnaire .purpose of study explain to the student at the time of the data collection. Filling the questionnaire was completely voluntary and confidentiality was ensured. Questionnaire was distributed via google form and data collected in Microsoft excel. Filling the questionnaire done in classroom. DASS-21 scale only evaluates the participant experiences of the last seven days and hence might not reflect the actual mental state of students.⁽¹⁾

RESULTS

The overall prevalence of depression, anxiety and stress among the first year Student was found to be 13(33.5%),13(28.4%).2(4.85%) respectively. Out of 124 questionnaires distributed, 83 were received. The majority of students had mild to moderate level of depression, anxiety and stress reported Academic stress as their common stressor. Very few student students in severe level of depression, anxiety and stress. The mean age of study participant was (21.26+-2.54) years. Prevalence of depression, anxiety and stress among male is 9(25%),6 (12.26%) and 1(2.7%) respectively and female 4(8.5%),7(16.14%) and 1(2.12%) respectively. We found that level of depression, anxiety and stress was more in female compare to female.

Demographic Data

	Number	Percentage (%)
Male	36	43.37
Female	47	56.62
AGE	(21.26+-2.54)	

Depression, Anxiety and Stress in Male and Female of First Year Dmlt Student

	Male n (%)	Female	Total(83)
Anxiety	6 (12.26%)	7(16.14%)	13(28.4%)
Stress	1(a2.7%)	1(2.12%)	2(4.85%)
Depression	9(25%)	4(8.5%)	13(33.5%)

Level of Depression Anxiety and Stress in Male and Female

Level	Depression		Anxiety		Stress	
	Male n (%)	Female n (%)	Male n (%)	Female n (%)	Male n (%)	Female n (%)
Normal	27(75%)	43(91.48%)	30(85.33%)	40(85.10%)	35(97.22%)	46(97.87%)
Mild	5(13.88%)	2(4.25%)	3(8.33%)	5(13.88%)	1(2.77%)	1(2.12%)
Moderate	3(8.33%)	2(4.25%)	2(5.55%)	2(4.25%)	0(%)	0(%)
Severe	0(%)	0(%)	0(%)	1(2.77%)	0(%)	0(%)
Extremly Severe	0(%)	0(%)	0(%)	0(%)	0(%)	0(%)

Responses of Dmlt Student about Common Stressor for Depression Anxiety and Stress

	Depression n (%)	ANXIOETY(%)	stress n(%)
Accommodation			
Hostel	6(46.15%)	6(46.15%)	1(50%)
Outside hostel	8(61.53%)	8(61.53%)	1(50%)
Academic stress	10(76.92%)	11(84.61%)	2(100%)
Hectic life style	8(61.53%)	6(46.15%)	0(%)
Broken Relationship	6(46.15%)	6(46.15%)	0(%)
Family Problems	4(30.76%)	5(38.46%)	2(100%)

DISCUSSION

This study indicates the mental health of the medical student might improve after implementing a study friendly curriculum, better learning technique and alternative ways to alleviate academic stress.⁽¹⁾ According to the WHO (World Health Organization), it is estimated that mental diseases, including depression, anxiety and stress, will be the second leading cause of disability by the year 2020, which evokes the issue of importance of identifying students who are more vulnerable to mental illnesses.⁽¹⁾ Stress in medical education comes from different sources could be personal, academic, and/or economic circumstances that have negative effect on student's health, personal adjustment and grades.

CONCLUSION

In this study we found that frequency of depression anxiety and stress was higher in first year DMLT student during their early year of medical collage. It recommended to implement screening programs including assignment of professional counsellors and mentors to help and identify student suffering from symptoms of depression, anxiety and stress.⁽¹⁾ There should be the availability of counsellors who are not involved in the academic education of medical students and who can provide a safe environment where students feel at ease to share their problems without feeling judge.⁽¹⁾

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CONFLICT OF INTEREST: None

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Original Article

A cross sectional study on vehicle ownership and its impact on study, leisure, social activities and academic performance of medical students in Govt medical college, Bhavnagar city.

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KEY WORDS : Vehicle Ownership, Social Activities, Travelling, Medical Students

ABSTRACT

Background:

Students with private vehicle can travel to any destination in area whenever they wish. Those who do not own a vehicle need to rely mainly on public transport services available in area, walking or bicycling, and on their friends which may drastically constrict their choices of trips on a particular day. Furthermore, it provides easy access to libraries, cafes, for group studies etc.

Aims and Objectives: The study aims to investigate the relationship of student's vehicle ownership and academic performance

Methodology: A cross sectional study was conducted among 162 medical students of Bhavnagar city, selected through simple random sampling, using a self-designed semi structured questionnaire. Descriptive statistics summarized participant characteristics, while chi-square tests examined associations between variables. Written informed consent was obtained.

Results and Discussion: Out of 162 respondents, Female 62 (38.2%), Male 100 (61.7%). Mean age 20.7 + 1.2 years. Vehicle ownership 78 (48.1%). Majority of respondents 108 (66.6%) had theory attendance above 75%, 117 (72.2 %) for practical attendance above 80%. 135 (83.3%) respondents are interested in extracurricular or sports activities. Only minority of respondents 15 (9.2%) scored below 50% in their examination. Major mode of commute being two wheelers include owned vehicles 72 (95%) have higher, better score while 6(5%) have poor score. Second most frequently used mode being carpooling, mostly friends two wheelers 45 (87%) scored higher than 7(13%) scoring lower in exams.

Conclusion: We selected government medical university with limited on campus bus service for students commute to teaching site. Study found no significant association between vehicle ownership and academic performance. Respondents owning vehicle, using other modes to commute have overall better academic performance, thus suggesting the use of vehicle beneficial in the long run. Provision of college bus to majority of students can be improved.

INTRODUCTION

The quest of a medical degree is a noble endeavor that comes with a unique set of challenges. Medical students are often required to stick to a demanding schedule that includes long hours of classes, extensive study sessions, and clinical rotations. The nature of their coursework and responsibilities necessitates effective time management and the ability to balance academic commitments with personal and social activities. Moreover, the demanding nature of medical studies often leaves students with limited free time, making efficient use of time and resources essential for maintaining a healthy work-life balance.

One significant factor that can deeply impact the daily lives of medical students is their choice of transportation. Whether it be through personal vehicle ownership, reliance on public transportation, or other means, the mode of transportation can affect a student's daily routine in various ways. Personal vehicle ownership, in particular, offers convenience, flexibility, and independence. It allows students to tailor their schedules to their own needs, facilitating easier commutes and potentially expanding their opportunities for social and leisure activities. However, vehicle ownership also comes with costs, including financial burdens,

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maintenance responsibilities, and potential stressors such as traffic congestion. The decision to own a vehicle is a multifaceted one, involving economic, logistical, and lifestyle considerations. The study aims to investigate the relationship of student's vehicle ownership and academic performance¹. Students with a private vehicle can travel to any destination in the area whenever they wish with minimal constraints. On the other hand, those who do not own a vehicle need to rely mainly on public transport services available in the area, walking or bicycling, and on their friends which may drastically constrict their choices of trips on a particular day. Those who own a vehicle can use their private transport to easily access various destinations and complete their daily activities in a shorter time with less effort, thus leaving more time for them to review lecture notes, do homework, and study textbooks after classes, if desired. Furthermore, it provides easy access to libraries, café, etc. for group studies².

OBJECTIVES

- 1) To study the relationship of vehicle ownership and its impact on academic performance.
- 2) To study the relationship of vehicle ownership and its impact on the participation of students in extracurricular or sports activities.
- 3) To study the relationship of vehicle ownership and its impact on theory and PRACTICAL ATTENDANCE

METHODOLOGY

The present study was conducted with due approval from the Head of the Department of Community Medicine at Government Medical College, Bhavnagar, demonstrating a commitment to ethical research practices. In order to ensure the well-being and rights of all participants, informed consent was diligently obtained from each student prior to the commencement of the study, reflecting a fundamental ethical principle of research.

Study Design and Setting

The research employed a cross-sectional study design, among 162 medical students, selected through simple random sampling. The study's timeline spanned from August to September 2023, allowing for a focused investigation of the target population's experiences during this period.

Data collection and Tools

The collection of data was facilitated through a self-designed questionnaire distributed via Google Forms, a widely used and convenient platform for data collection. The development of the questionnaire was preceded by a meticulous review and consultation with relevant experts to ensure its validity and relevance.

Analysis

Data collection for this study predominantly relied on frequencies and percentages as key data variables. These measures are particularly useful for summarizing and presenting data in a clear and interpretable manner. Utilizing these variables enables a comprehensive understanding of the relationships and trends within the dataset, enhancing the study's ability to derive meaningful conclusions.

The collected data was meticulously analysed using Microsoft Excel software and EpiInfo software (version 7.2.5), ensuring accurate and systematic data processing. This robust data analysis process allowed for the extraction of meaningful patterns and relationships within the dataset, ultimately contributing to the study's comprehensive findings.

FINDINGS

Table I summarizes the distribution and the descriptive statistics for the variables used in this study¹. The study collected data from 162 respondents, primarily medical students at Government Medical College in Bhavnagar. The data reveals a comprehensive snapshot of various key variables related to gender, academic year, vehicle ownership, driving license ownership, mode of commute, attendance, interest in extracurricular activities, dependence on others for commute, daily travel distance, and examination scores.

Gender distribution among the respondents is an essential demographic characteristic. Out of the 162 participants, 62 (38.27%) were female, and 100 (61.73%) were male. This gender distribution reflects a higher male representation in the sample, which might be indicative of the gender dynamics within the medical student population at Government Medical College.

The study encompassed students from various academic years, with 52 (32.10%) from the 1st year, 46 (28.40%) from the 2nd year, and 64 (39.51%) from the 3rd year. These academic year statistics might be indicative of the evolving dynamics within the curriculum, including

variations in academic workload and clinical responsibilities, which can have implications for variables like attendance and examination scores.

Vehicle ownership is a central theme of the study, and the data shows that 78 (48.15%) respondents owned vehicles, while 84 (51.85%) did not. This distinction is pivotal in understanding the students' mobility and convenience, and how it might impact various aspects of their academic and extracurricular lives. The possession of personal vehicles can be seen as a sign of financial independence and personal mobility, potentially influencing their mode of commute and participation in extracurricular activities. Among the respondents, 98 (60.49%) possessed a valid driving license, indicating their readiness and eligibility to operate vehicles. This information provides insight into the level of preparedness and willingness of students to use their vehicles for daily commuting.

The mode of commute plays a crucial role in the daily lives of medical students. The data indicates that the most common mode of commute is via two-wheelers, with 76 (46.91%) students choosing this option. Other modes include shared vehicle (52; 32.10%), college bus (22; 13.58%), and walking (12; 7.41%). The dominance of two-wheelers suggests a preference for personal mobility and independence, which may impact factors such as attendance and extracurricular activities.

Practical attendance is a critical component of medical education, and the data indicates that a substantial majority, 117 (72.22%) respondents, maintained practical attendance above 80%. Conversely, 45 (27.78%) reported practical attendance below 80%. This finding highlights the commitment of most students to their clinical and hands-on training, despite factors like vehicle ownership. In terms of theory attendance, the data shows that 108 (66.67%) respondents had attendance rates above 75%, while 54 (33.33%) reported attendance below this threshold. High theory attendance rates indicate students' dedication to classroom learning, while lower attendance rates may be influenced by factors like extracurricular activities and daily commutes.

Interest in extracurricular or sports activities is a significant aspect of students' well-rounded development. The data reveals that a vast majority, 135 (83.33%) respondents, expressed interest in participating in activities beyond their academic

responsibilities, while 27 (16.67%) did not. This finding underscores the students' desire for a balanced college experience that goes beyond their coursework. The number of extracurricular or sports activities engaged in per month varied, with 61 (37.65%) students participating in one activity, and 43 (26.54%) engaging in more than three activities. This demonstrates the diverse range of interests and involvements among the students, with some being highly active in extracurricular pursuits.

Another key variable is the dependence on others for daily commute. The data shows that 84 (51.85%) respondents rely on others for their daily commute, while 78 (48.15%) are independent in this regard. This distinction sheds light on the students' level of autonomy and convenience in their daily travel. Daily travel distance also plays a role in students' lives, with 85 (52.47%) traveling 3 - 10 km daily, 74 (45.68%) covering distances greater than 10 km, and 3 (1.85%) having very short distances of 0 km. The variety in daily travel distances suggests that the impact of vehicle ownership on daily commuting can vary widely among students.

Finally, the examination score percentages are a fundamental measure of academic performance. The data reveals that a significant majority, 124 (76.54%) respondents, scored between 51 - 70%, while 23 (14.20%) scored above 70%, and only 15 (9.26%) scored below 50%. This indicates that most students are performing satisfactorily in their examinations, which is a key indicator of their academic progress.

T-test

Afterward, the frequency for each group was computed as shown in Table II - IV. To check if the characteristics of the students who do not use the bus are significantly different from those who use the bus, an independent t-test was conducted³. The null hypothesis was that the academic performance in the course, extracurricular activity involvement, theory attendance and practical attendance for the students who do not own vehicle did not differ significantly from those who use the own vehicle. As shown in Table II - IV, the independent t-test shows that the null hypothesis could be accepted at 95% confidence for the three different variables. Therefore, the academic performance in the course, extracurricular activities involvement, theory attendance and practical attendance for students do not differ significantly based on vehicle ownership.

Table I: Distribution of the Variables used in the Study

Variables		Frequency	Percentages
Gender			
	Female	62	38.27%
	Male	100	61.73%
Academic year			
	1st year	52	32.10%
	2nd year	46	28.40%
	3rd year	64	39.51%
Vehicle ownership			
	Yes	78	48.15%
	No	84	51.85%
Driving Licence owned			
	Yes	98	60.49%
	No	64	39.51%
Mode of commute			
	Shared vehicle	52	32.10%
	College bus	22	13.58%
	Personal Two wheeler	76	46.91%
	Walking	12	7.41%
Practical attendance			
	<80%	45	27.78%
	>80%	117	72.22%
Theory attendance			
	<75%	54	33.33%
	>75%	108	66.67%
Interest in extracurricular or sports activities			
	Yes	135	83.33%
	No	27	16.67%
Frequency of Extracurricular or sports activities per month			
	0	21	12.96%
	1	61	37.65%
	2	24	14.81%
	3	13	8.02%
	More than 3	43	26.54%
Dependency on others for commute			
	Dependent	84	51.85%
	Independent	78	48.15%
Average Distance travelled daily			
	> 10	74	45.68%
	0	3	1.85%
	3 - 10 km	85	52.47%
Examination Score percentages			
	<50 %	15	9.26%
	>70 %	23	14.20%
	51 - 70 %	124	76.54%

Table II: Vehicle ownership Vs Academic performance of respondents.

Vehicle ownership	Examination Score percentage		Total
	<50%	>50%	
Yes	4	74	78
Fow %	5.13%	4.87%	100.00%
Col%	28.57%	50.00%	48.15%
Yes	10	74	84
Fow %	11.90%	88.10%	100.00%
Col%	71.43%	50.00%	51.85%
Yes	14	148	162
Fow %	8.64%	91.38%	100.00%
Col%	100.00%	100.00%	100.00%

Corrected $X^2 = 1.5724$

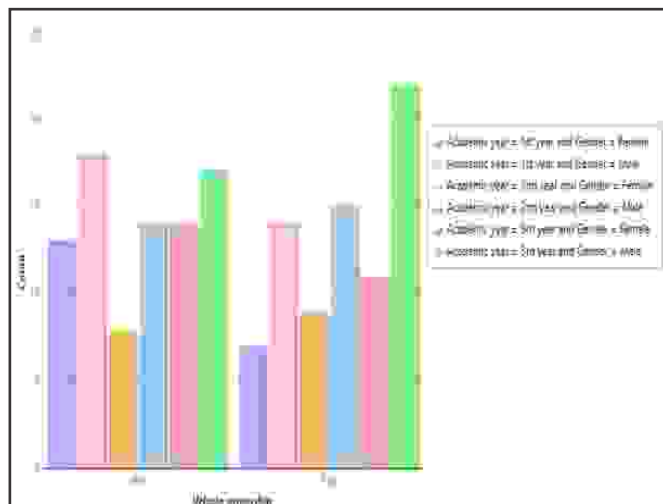
Level of significance = 0.2

There is no significant association between the ownership of vehicle and the performance of students in their respective academic year examinations.

Graph I: Distribution of participants according to gender, academic year and vehicle ownership

A total of 78 (48.1%) out of 162 respondents own vehicle. From Graph I it is visible that the distribution of non-ownership among second year male 14 (16%) and third year females 14(16%) is equal. Vehicle ownership is highest 22 (28%) among the 3rd year male students while lowest 7 (0.09%) in 1 year female students.

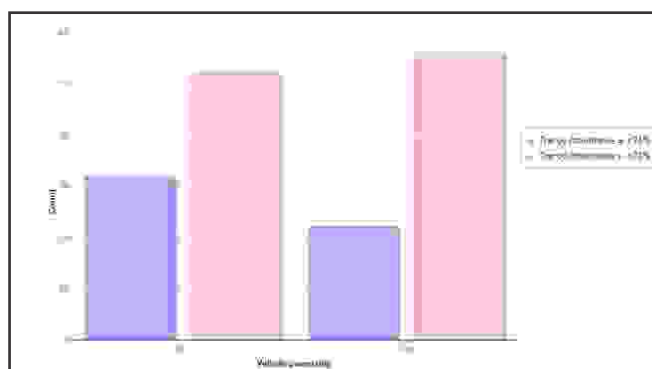
Graph I. Distribution of vehicle ownership, gender and academic year of respondents.



Graph II: Distribution of vehicle ownership among students having > 75% in theory attendance.

From the graph II below, represents the respondents who have secured >75% in Theory attendance. The distribution pattern of vehicle ownership and non-ownership among academic year level is similar with very less noticeable difference. First year respondents 21 (27%) own while 22 (26%) do not own vehicle. Similarly, second year respondents 14 (18%) own while 13 (15.4%) do not own vehicle. However, there is a slight difference among the third year respondents who own 21 (27%) while 16(19%) who do not own a vehicle.

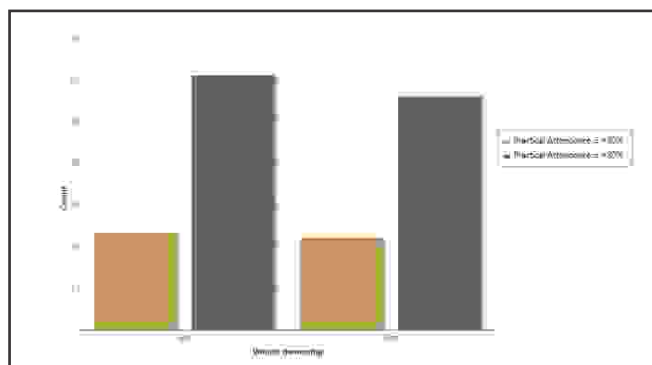
Graph II: Distribution of vehicle ownership among students having > 75% in theory attendance.



Graph III: Distribution of vehicle ownership among those having <80 % practical attendance.

The graph III below, represents the respondents who secured <80% Practical attendance. 46 (28%) Students had a shortage of practical attendance out of the 162 respondents. Almost equal number 23 (49.4%) of student own vehicle. 2nd year and 3rd years were the majority among the vehicle owners, this might be probably due to the fact that the 1st years were still adapting to the surrounding and are still considering to buy/own vehicle as evident by the graph.

Graph III: Distribution of vehicle ownership among those having <80 % practical attendance.



Graph IV: Distribution of vehicle ownership and distance covered travelling for non-academic activities

Graph IV, represents the distribution of vehicle ownership and distance covered travelling for non-academic

activities. Over all 46 (59%) of vehicle owners travelled longer distances compared to the non-owners across all academic years. Third years 21 (46%) used vehicle more

Graph IV: Distribution of vehicle ownership and distance covered travelling for non-academic activities

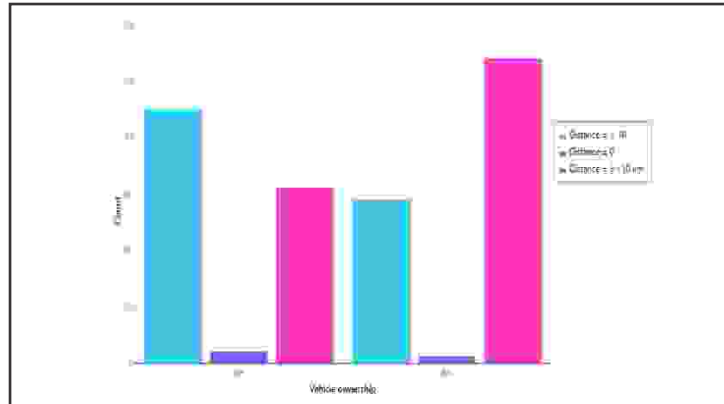


Table III: Vehicle ownership Vs Involvement of students in extracurricular sports activities

Vehicle ownership	Extracurricular or sports activities involvement		Total (n=162)
	Yes	No	
Yes	65	13	78
Fow %	83.33%	16.67%	100.00%
Col%	48.15%	48.15%	48.15%
No	70	14	84
Fow %	83.33%	16.67%	100.00%
Col%	51.85%	51.85%	51.85%
Total	135	27	162
Fow %	83.33%	16.67%	100.00%
Col%	100.00%	100.00%	100.00%

$$X^2 = 0.5826 \quad \text{Level of significance } p = 0.49$$

There is no significant association between vehicle ownership and interest/ participation/ involvement of students in extracurricular or sports activities.

Table IV: Vehicle ownership Vs Theory attendance of respondents

Vehicle ownership	Theory Attendance		Total
	<75%	>75%	
Yes	22	56	78
Row %	28.21%	71.79%	100.00%
Col %	40.74%	51.85%	48.15%
No	32	52	84
Row %	38.10%	61.90%	100.00%
Col %	59.26%	48.15%	51.85%
Total	54	108	162
Row %	33.33%	66.67%	100.00%
Col %	100.00%	100.00%	100.00%

$$X^2 = 1.78 \quad \text{Level of significance } p = 0.18$$

There is no significant association between vehicle ownership and theory attendance of students.

Table V: Vehicle ownership Vs Practical attendance of respondents

Vehicle ownership	Practical Attendance		Total
	<80%	>80%	
Yes	22	56	78
Row %	28.21%	71.79%	100.00%
Col %	48.89%	47.86%	48.15%
No	23	61	84
Row %	27.38%	72.62%	100.00%
Col %	51.11%	52.14%	51.85%
Total	45	117	162
Row %	27.78%	72.22%	100.00%
Col %	100.00%	100.00%	100.00%

$$X^2 = 0.019$$

Level of significance $p = 0.92$

There is no significant association between vehicle ownership and practical attendance of students.

CONCLUSION

In conclusion, the results of this study shed light on the intricate relationship between vehicle ownership and the lives of medical students at Government Medical College, Bhavnagar. The findings reveal that approximately 50% of students own two-wheeler vehicles and possess valid driving licenses, which may contribute to their independent mobility and freedom in daily routines. Study found no significant association between vehicle ownership and academic performance. Despite the demands of their academic commitments, most students maintain satisfactory attendance levels and express a strong interest in extracurricular activities. Additionally, the majority of students perform well in their examinations, suggesting that vehicle ownership does not appear to negatively impact their academic performance.

We selected a government medical university with a limited on campus bus service for the students commute to teaching site, since we believed this was more likely to show differences in extracurricular participation among the various student groups. This research is by nature exploratory; the findings must be used with care. They represent the behaviour of medical students of Government Medical college only; they may or may not represent that of students in other fields of study. And finally, since the project site is a government university,

the findings may not hold good for the travel behaviour of students at a private university [2]. Further research and analysis may help explore the causal relationships between these variables and identify strategies for improving the overall well-being and success of medical students.

RECOMMENDATIONS

1. Financial Literacy Workshops: Since a substantial number of students own vehicles and hold valid driving licenses, it would be beneficial to provide financial literacy workshops. These workshops could help students manage the costs associated with vehicle ownership, including maintenance, fuel, and insurance. Understanding how to budget effectively for vehicle-related expenses can reduce financial stress and improve overall well-being.
2. Carpooling Initiatives: Given that a large proportion of students rely on two-wheelers for their commute, promoting carpooling initiatives within the college community could be beneficial. Carpooling not only reduces the environmental impact but also eases traffic congestion and the financial burden on individual students. The college administration can support the creation of carpooling networks and designated parking areas for carpoolers.
3. Extracurricular Activity Integration: With a large proportion of students expressing interest in

extracurricular and sports activities, the college can consider integrating these activities into the curriculum or scheduling them during hours when most students are available. This would ensure that students can actively participate in these activities without adversely affecting their academic commitments.

4. **Academic Support Programs:** To assist students with lower theory and practical attendance rates, the college can establish academic support programs. These programs might include additional tutorials, mentoring, or online resources to help students catch up on missed content and improve their academic performance.
5. **Promotion of College Bus Services:** To improve the provision of college bus services, the college administration can actively promote the use of these services to students. Clear communication about schedules, routes, and the convenience of college buses can encourage more students to utilize this mode of commute.
6. **Regular Feedback Mechanism:** Establishing a regular feedback mechanism for students to express their opinions and concerns about transportation services, academic support, and extracurricular activities can be invaluable. This feedback can guide ongoing improvements in these areas, ensuring that the college is responsive to the evolving needs and preferences of its students.
7. **Scholarships and Financial Aid:** Recognizing that vehicle ownership and maintenance costs can be a financial burden, the college can explore opportunities to provide scholarships or financial aid to deserving students, particularly those facing economic challenges. This support can help students manage their academic and transportation expenses more effectively.

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Nil

Conflicts of Interest

There are no conflicts of interest

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Original Article

Study of Fetomaternal outcome in Case of Twin Pregnancy

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KEY WORDS : Twin Pregnancy, Fetal Outcome, Maternal Complications.

ABSTRACT

Background: Twin pregnancies are nowadays more common. It is important to study fetomaternal outcome in twin pregnancy as there is increased risk of maternal as well as perinatal complications in twin pregnancy. This study aims to understand maternal and perinatal outcome in cases of twin pregnancies delivering in Civil Hospital, Ahmedabad.

AIM: to study fetal and maternal outcome in cases of twin pregnancy in Civil hospital, Ahmedabad.

Methods: A prospective study was conducted in department of obstetrics and gynecology, in B. J. Medical College, Civil hospital, Ahmedabad for period of 1st January, 2019 to 31st December, 2019. Total number of cases included were 72 in this period.

Results: Mean maternal age for twin pregnancy was around 25 years. Twins were seen more in multigravida (75%) as compared to primigravida (25%). Preterm labor (69.06%), Anemia (44.44%) and Hypertensive disorders (32%) and PPH (11.11%) were the most common complication in twin pregnancies. Significantly higher rate of LSCS were seen in twin pregnancies (33.33%). There was higher incidence of moderate to severe asphyxia, IUGR and higher rate of NICU admissions in twins.

INTRODUCTION

There is significant increase in numbers of multiple gestation mainly due to higher rates of infertility and the widespread use of assisted reproduction mainly by use of clomiphene citrate and HMG (human menopausal gonadotropin). The Worldwide incidence of multiple pregnancies varies considerably it is around 2 -20 per 1000 live births.⁽¹⁾ Highest burden of multiple pregnancies has been found in Sub-Saharan Africa, with an average twinning rate of 20 per 1,000 deliveries compared to 10 per 1,000 deliveries in Europe and around 5-6 per 1,000 deliveries in Asia.⁽²⁻⁴⁾ Whereas incidence of twin pregnancy in India is 4-6 per 1000 birth rate.

The various complications encountered in mothers are anaemia, hyperemesis, preterm labour, hypertensive disorders of pregnancy, antepartum haemorrhage, polyhydramnios, increased pressure symptoms, varicose veins and gestational diabetes. Low birth weight, contributed by both prematurity and IUGR, are

the main factors responsible for higher perinatal mortality in twins. Compared to singleton pregnancies, multiple pregnancies are reported to carry higher maternal as well as perinatal morbidity and mortality.⁽⁵⁻⁶⁾

METHODS

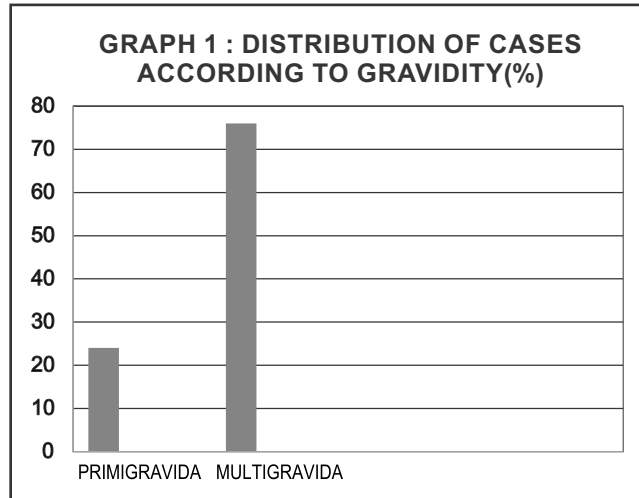
This prospective study was carried out in department of obstetrics and gynecology of Civil hospital, Ahmedabad from period of 1st January, 2019 to 31st December, 2019. 72 samples were taken. It included cases of twin pregnancy which came to labour room of civil hospital with clinical or ultrasound diagnosis of twin pregnancy after 28 weeks of gestation. Both mother and babies were followed from admission to delivery of babies to discharge of mother and babies. Data related to maternal age, parity, maternal medical and obstetric complications, USG for chorionocity, fetal viability, presentations of both fetuses were collected in proforma. Various maternal as well as fetal complications data was collected and was also compared with complications in a singleton pregnancy. (72 random cases of singleton pregnancy were taken from the same time period admitted in Civil hospital, Ahmedabad).

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RESULTS AND DISCUSSION

Table 1: Distribution of Cases According to Gravidity

Gravidity	Cases (%)
Primigravida	18 (25%)
Multigravida	54 (75%)
Total	72 (100%)



In this study, twin pregnancy was common in multigravida than primigravida patients. Mean age for highest occurrence of twin pregnancy is 18-25 years of age. It can be common as women in India conceive most frequently in this age group.

Table 2: Distribution of Cases According to Age

Age (in Years)	No Of Cases (%)
18-25	34 (47.22%)
26-30	30 (41.66%)
31-40	8 (11.11%)
Total	72 (100%)

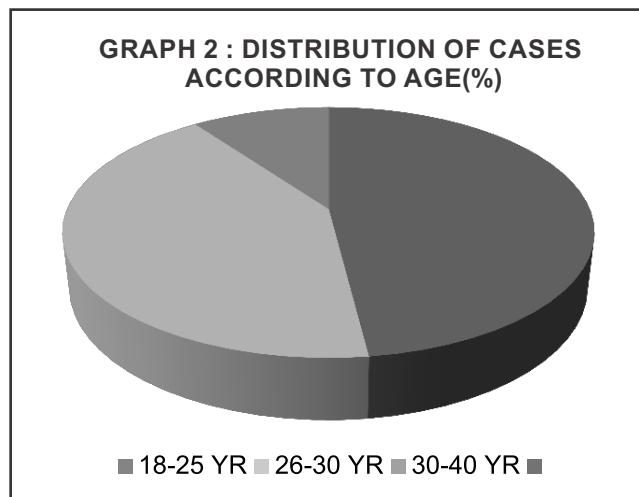


Table 3: Distribution Of Cases According To Presentation Of Both Fetuses

Presentation Of Both Fetuses	Cases (%)
Both Cephalic	37 (51.38%)
Both Breech	6 (8.33%)
1st Cephalic, 2nd Breech	12 (16.67%)
1st Breech, 2nd Cephalic	16 (22.22%)
1st Cephalic, 2nd Transverse	1 (1.3%)

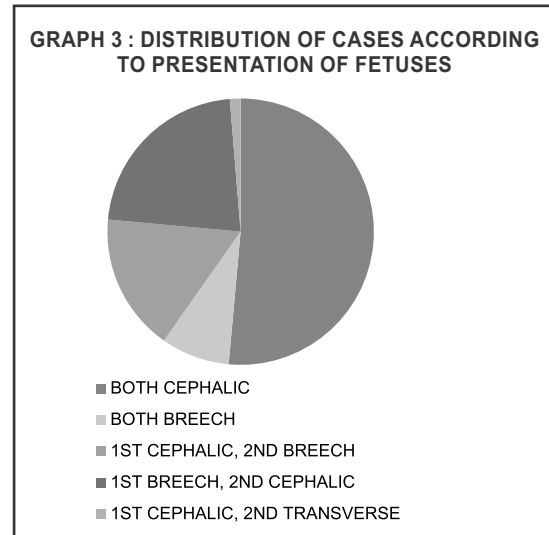
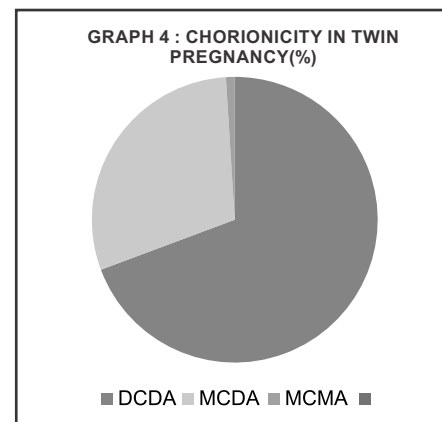


Table 4: Distribution of Cases According to Chorionicity

Age (in Years)	No Of Cases (%)
18-25	34 (47.22%)
26-30	30 (41.66%)
31-40	8 (11.11%)
Total	72 (100%)



Most common presentation in case of twin pregnancy in our study is both cephalic which covers 47.22% of all cases studied, followed by 1st breech and 2nd cephalic (19.44%), 1st cephalic and 2nd breech (12.5%) and both

breeches (8.33%). Dichorionic diamniotic (DCDA) twins are most commonly seen (69.44%), while monochorionic monoamniotic (MCMA) twins are least common (1.38%). Monochorionic type of twins are prone to have fetal complications like twin twin transfusion syndrome, acardiac twins, IUGR etc.

Table 5: Mode of Delivery in Case of Twin Pregnancy

Route of Delivery	Cases (%)
Vaginal Delivery Without Instrumental Aid	43 (59.72%)
Instrumental Vaginal Delivery	5 (6.94%)
Lscs	24 (33.33%)
Total Cases	72 (100%)

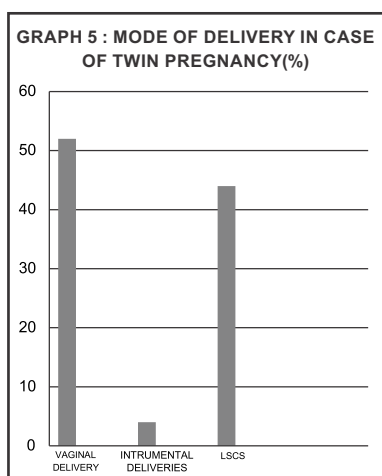


Table 6: Distribution of Cases According to Indication of CS in Twin Pregnancy

Indication For CS	Cases (%)
Prev 2cs	2 (8.33%)
Abnormal Lie (including Prev CS)	16 (66.66%)
Fetal Distress	3 (12.5%)
Others (Maternal Complications)	3 (12.5%)
TOTAL	24 (100%)

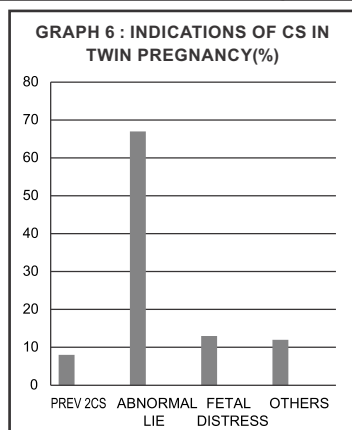
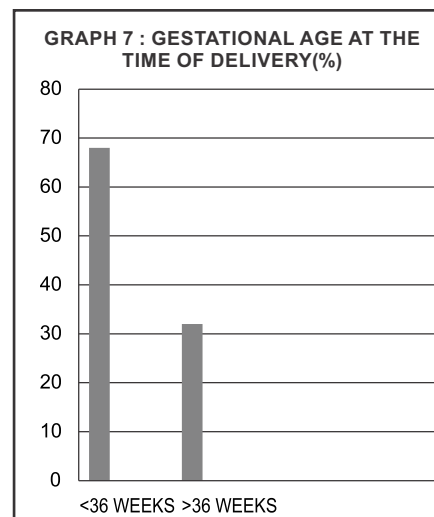


Table 7: Distribution of Cases According to Gestational Age at The Time of Delivery

Gestational Age at The Time of Delivery	Cases (%)
<36 Weeks	49 (69.06%)
>36 Weeks	23 (31.94%)
Total Cases	72 (100%)



In our study, vaginal delivery occurred in 43 cases(59.72%) whereas in 5 cases instrumental delivery was carried out (forcep or vaccum). LSCS rate is as high as 33.33% in twin pregnancy which is significant. Causes for high ceserean section rate in twin pregnancies are abnormal lies, previous ceserean section, fetal distress, non progression of labour etc. Preterm deliveries were conducted in 49 cases(69.09%) which is very important risk factor for neonatal morbidity and mortality.

Table 8: Maternal Complications

Maternal Complication	In Twin Pregnancy Cases (%)	In Singleton Pregnancy Cases (%)
Anemia	32 (44.44%)	21.3%
Hypertensive Disorders In Pregnancy	23 (31.94%)	17.33%
Preterm Labour	49 (69.06%)	25.3%
Prom	10 (13.88%)	5.33%
Postpartum Hemorrhage	8 (11.11%)	8%
Antepartum Hemorrhage	3 (4.16%)	4%

In this chart, 72 cases of twin pregnancy were compared with random 72 cases of singleton pregnancy which came to civil hospital, Ahmedabad during same time period to

compare maternal complications of twin pregnancy with singleton pregnancy. 32 cases of twin pregnancy had anemia which comprised of 44.44% of total cases, while in singleton pregnancy, only 21.3% cases had anemia. Increased demand of nutrition by more than one fetus is responsible for increased rate of anemia in twin pregnancy.

Hypertensive disorders such as pre eclampsia, eclampsia are found in 31.94% of twin cases and 17.33% of singleton pregnancies. The large placenta in multiple pregnancies probably exposes mothers to more paternal antigen and placental secreted pregnancy hormones which are likely to contribute to pre-eclampsia and eclampsia in twin pregnancies. In this study, there is no significant increase in cases of antepartum or postpartum hemorrhage in cases of twin pregnancy as compared to singleton pregnancy.

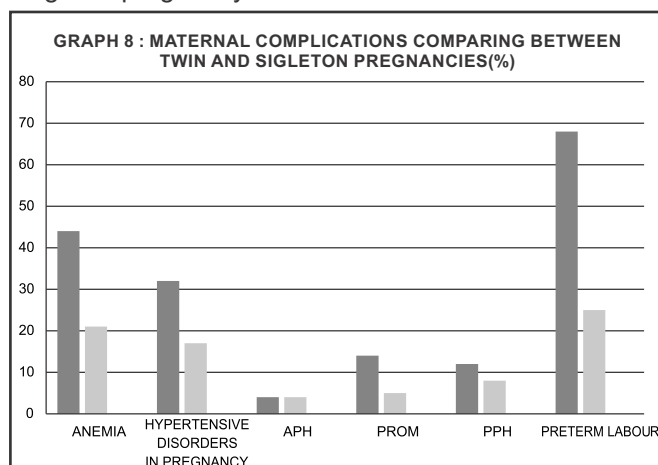


Table 9: Perinatal outcome in Twin Pregnancy

Perinatal Outcome	In Twin Pregnancy Cases (%)	In Singleton Pregnancy Cases (%)
Prematurity	98 (68.05%)	25%
Iugr	34 (23.61%)	18%
Nicu Admission	56 (38.88%)	13%
Perinatal Death	26 (18.05%)	8%
Low Birth Weight	98 (68.05%)	16%

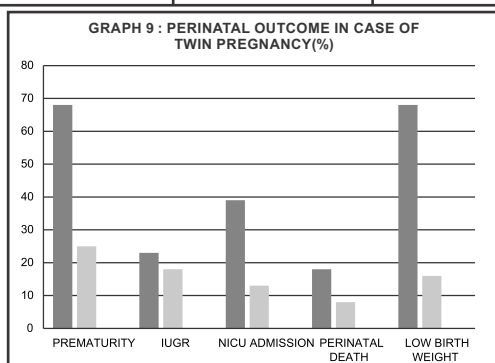
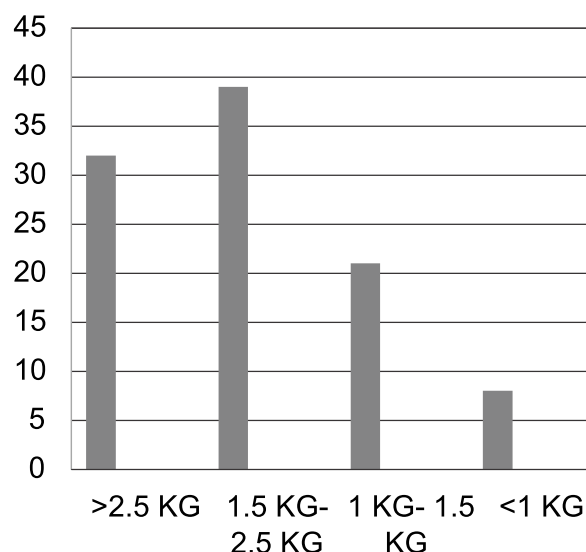


Table 10: Birth Weight of Baby in Twin Pregnancy

Birth Weight Of Baby	No of Babies(%)
>2.5 Kg	46 (31.94%)
1.5 Kg-2.5 Kg	56 (38.88%)
1 Kg- 1.5 Kg	31 (21.52%)
<1 Kg	11 (7.63%)
TOTAL	144 (100%)

GRAPH 10 : BIRTH WEIGHT OF BABY IN TWIN PREGNANCY(%)

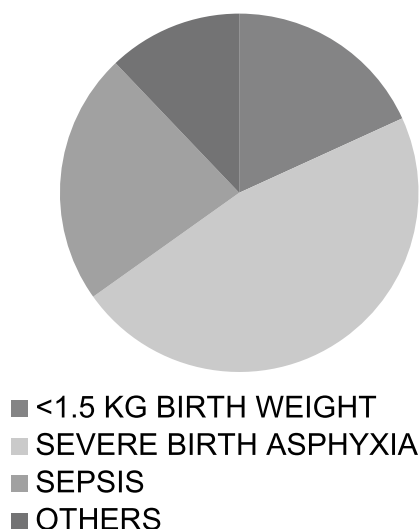


Low birth weight is birth weight less than 2.5 kg which is seen in 98 babies(68.05%) of cases and it is around 25% in singleton pregnancy. There also higher rates of IUGR(23%) and NICU admissions(38.88%) in twin pregnancies. Most common causes of NICU admissions are low birth weight, birth asphyxia and prematurity. Perinatal death is 18% in twins and 8% in singleton pregnancy. Prematurity is a major cause of perinatal mortality in twins. Most common cause of low birth weight is prematurity.

Table 11: Causes of Perinatal Deaths in Twin Babies

<1.5 Kg Birth Weight	12 (46.15%)
Severe Birth Asphyxia	8 (30.76%)
Sepsis	4 (15.38%)
Others	2 (7.69%)
Total Perinatal Deaths	26 (18% Of Total Twin Birth)

GRAPH 11 : CAUSES OF PERINATAL DEATHS IN TWIN BABIES(%)



We observed in our study that out of total 26 perinatal deaths, 12 (46.15%) deaths occurred due to very low birth weight (<1.5 kg). 8 (30.76%) babies died due to severe birth asphyxia, 4 due to sepsis. Other causes for perinatal death are meconium aspiration syndrome, hyaline membrane disease, congenital anomalies etc.

CONCLUSION

Twin pregnancy was found to be associated with adverse maternal and perinatal outcomes. Diagnosis of twin pregnancy and determination of chorionicity is essential to anticipate abnormalities of monochorionicity such as acardiac twins, twin twin transfusion syndrome, IUGR, preterm labour etc. Low birth weight was mainly due to preterm labour and intrauterine growth restriction which are the most important factors responsible for perinatal deaths. This clearly indicates the need for screening programs for early detection of twin pregnancies for timely referral, better antenatal care and delivery at institution with good neonatal care unit.

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Original Article

Prospective Study on Emergency Peripartum Hysterectomy in Tertiary Care Centre Gujrat

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KEY WORDS : ·Peripartum hysterectomy, cesarian hysrectomy, near miss

ABSTRACT

INTRODUCTION: Emergency obstetric hysterectomy remains the last resort in saving maternal life in critical circumstances at the cost of woman's future fertility. Peripartum hysterectomy is one of the most devastating complications in obstetrics. Despite advances in medicine and surgery, peripartum hysterectomy is associated with high rates of morbidity, near miss and mortality. This study attempts to investigate common indication associated complications morbidity, mortality and outcome of cases undergoing peripartum hysterectomy in our hospitals P.D.U medical college Rajkot over a 1.5 years period. **MATERIAL AND METHOD:** prospective study of 30 cases of peripartum hysterectomy were noted from 14727 delivery during study period life span of 1.5year at P.D.U Medical college, Rajkot .Parameter like age parity indication booked status .mode of delivery .complication and fetomaternal outcome were recorded and analysed .**RESULT:** Out of 14727 delivery 31 cases undergone peripartum hysterectomy with incidence of 0.20. The mean age of the patient is 26.23 ± 3 years, the mean fetal weight is 2.60 ± 0.60 kg, the mean blood transfusion given per case is 5.73 units and 1 patient had died. PPH is the most common cause for obstetric hysterectomy in our study followed by rupture uterus and morbid adherent placentae. Perinatal mortality were 26.6%. most common complication is occurrence of DIC .**CONCLUSION:** Quick decision for obstetrics hysterectomy reduces maternal mortality. Identification of high risk cases, early referral, timely performance of caesarean section, careful monitoring can reduce the near miss event. Training of obstetrician in emergency peripartum hysterectomy is very much necessary to reduce the event.

INTRODUCTION

Obstetric Hysterectomy is the removal of uterus at the time of Caesarean Section, following Caesarean Section, immediate after vaginal delivery or in the period of puerperium¹.

Obstetric Hysterectomy first done by Horatio Storer in 1869 revolutionised the management of obstetric emergencies as a method to reduce maternal mortality².

Incidence varies from 0.4% - 0.8% higher incidence in caesarean deliveries. Its incidence at a particular institution reflects the level of obstetric care and health care setting provided in that area³.

The maternal outcome greatly depends on timely decision, surgical skill & speed of performing hysterectomy.

With advent of medical and surgical methods to control complications of labour like use of uterotonics, stepwise devascularization procedure, B-lynch etc. peripartum hysterectomy is usually reserved for situation where

above mentioned conservative measures fail to help in improving the deteriorating condition of the mother.

Thus emergency obstetric hysterectomy remains the last resort in saving maternal life in critical circumstances at the cost of woman's future fertility. Although uncommon in modern obstetrics, peripartum hysterectomy is one of the most devastating complications in obstetrics. It represents a catastrophic end to a pregnancy to all women in general and to those wanting to maintain their fertility in particular.

Despite advances in medicine and surgery, peripartum hysterectomy is associated with high rates of morbidity, near miss and mortality. It is mostly performed as an emergency procedure to control torrential life-threatening haemorrhage and remains a life-saving procedure.

The commonest indication for emergency obstetric hysterectomy which is cited in literature is postpartum haemorrhage due to uterine rupture and uterine atony⁵.

However due to increase in number of caesarean

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deliveries over the past two decades, placenta accreta has emerged as a common indication for this operation in developed countries⁶.

This thesis attempts to study cases of peripartum hysterectomy in our hospitals pdu medical college Rajkot over a 1.5 years period.

It attempts to investigate risk factors, common indication associated complications morbidity, mortality and outcome of cases undergoing peripartum hysterectomy.

The number of women who experience peripartum hysterectomy event is greater than numbers who die. Hence such studies have greater need to investigate the risk factor management and identify possible means of prevention.

Though peripartum hysterectomy is a life saving procedure in obstetric emergencies it represents a painful dilemma to the obstetrician at the time of decision making. The decision to perform this operation especially in primi or in patients with no living children remains difficult one.

However in the event of intractable post partum haemorrhage, rupture uterus etc deteriorating vitals remains a potentially life saving measure. Hence there is a need to study this emergency procedure with respect to common indication, risk factors, predictors, surgical techniques, post-operative follow-up, complications and associated morbidity and mortality.

MATERIALS AND METHODS

This prospective observational study was conducted in obstetric department of civil hospital Rajkot from 1 September 2018 to April 2020 who underwent peripartum hysterectomy and who meets our inclusion criteria and exclusion criteria are included in study as per standard case record Performa.

All details of patient like Basic demographic data regarding name, age, residence, socio-economic status, diagnosis on admission, reason for referral, treatment received prior admission C/F on arrival present complication, previous significant histories contributing to the present condition are recorded.

After initial diagnosis, details regarding the status of the patient on admission with respect to vitals, presence of shock, organ failure, need for vasopressor, blood transfusion and indication to perform hysterectomy is noted.

General physical examination including vital signs, obstetric examination and systemic examination indication to performing the peripartum hysterectomy is

noted investigations are collected.

Failure of relatively innovative techniques, surgical technique involved associated surgical complication eg : injury to surrounding structures etc. like bladder damage, ureter damage, ovary removal, inexperienced surgeon are noted. Intra op finding and blood transfusion noted.

Results of the procedure with respect to incidence ,most common indication to perform peripartum hysterectomy , risk involved surgical complication, post operative need for ICU care, hospital stay , recovery rate associated with maternal and perinatal morbidity and mortality are NOTED.

INCLUSION CRITERIA

Peripartum hysterectomy done on obstetric ground at P.D.U Medical College and Hospital, Rajkot, Gujarat.

EXCLUSION CRITERIA

Obstetric hysterectomy done outside OBGY, department, P.D.U Medical college Rajkot, Gujarat.

RESULTS

Total delivery during study period were 14727 .Threety cases of obstetric hysterectomy which were performed at tertiary care hospital, Obstretic department P.D.U Medical College & Hospital, Rajkot, Gujarat from September 2018 to June 2020 are included in present study.

In our study maximum patients were belonged to 20-25 years and total 79%patients belonged to age group 21-30 years which is the peak of reproductive age.

In present study 73.4 % of patients were admitted as emergency unbooked cases whereas only 26.6%of patients were booked cases. Majority of patients were not booked. Proper antenatal care can significantly reduce the need for obstetric hysterectomy. Proper antenatal care helps in screening of 'High Risk' patients i.e. patients with previous LSCS scar, placenta previa, multigravida etc. So, timely referral of these 'High Risk' patients' to the tertiary care centre ultimately reduces certain preventable complications.

In the study 66.4% cases were referred as study is done in tertiary hospital, high risk patients requiring blood products, Intensive care unit or facility of dialysis are frequently referred from primary health centers, community health centres, district hospitals and private hospitals.

In present study 63.2% cases were >3 para. This shows that emergency obstetric hysterectomy increase with increasing parity (TABLE 1)With increasing parity there is increase in incidence of obstetric hysterectomy, as the

Table 1: Relationship of emergency-obstetric hysterectomy with maternal parity:

No of parity	Cases(n=30)	Percentage
1	02	6.6%
2	09	30%
3	08	26.6%
=>4	11	36.6%

chances for atonic PPH, placenta previa and sometimes rupture uterus increases. Surgeon's prefer to go for obstetric hysterectomy in multiparous patients as child bearing is completed and possibly conserve the uterus in primi patient.

Table 2: Mode of Deliveries:

Mode of Delivery	Cases(n=30)	Percentage(%)
Caesarian	19	63.3
Normal	6	20
Instrumental	5	16.6

In present study total vaginal delivery were 10725, incidence of Obstetric hysterectomy is 0.09% amongst vaginal deliveries, i.e. 1 in 1072.5 vaginal delivery and total cesarian section were 4002, incidence of Obstetric hysterectomy is 0.49% amongst patients delivered by caesarean section, i.e. 1 in 200 caesarean section, which is most likely due to increase in caesarean procedure and associated complications like rupture uterus, morbid adherent placenta and placenta previa etc. Total delivery during study period 14727 incidence is 0.20% i.e. 1 in 491 total deliveries.

Table 3: Indications of emergency obstetric hysterectomy:

Sr no.	Indication	Cases(n=30)	Percentage
1	Atonic PPH	12	40%
2	Rupture uterus	10	33.3%
3	Morbid Adherent Placentae	5	16.6%
4	Traumatic PPH	2	6.6%
5	Scar abscess	1	3.3%

In present study, major indication for obstetric hysterectomy are Atonic PPH accounting for 40% of cases followed by rupture uterus 33.3% of cases and morbid adherent placenta 16.6% of cases. Due to increased rate of caesarean section and multiparity, post

partum haemorrhage and rupture uterus comprises major indication for obstetric hysterectomy. Increasing incidence of LSCS and trial of labour after caesarean section leads to more chances of rupture of previous scar of uterus

Table 4: Morbidity associated with emergency obstetric hysterectomy:

Complication	Cases
Fever(febrile illness)	18
Bladder injury	07
DIC	07
Paralytic ilius	10
Wound gap	03
Burst abdomen	01
Septicaemia	01

In present study most common complication was fever in 60% of cases due to prolonged surgery, massive blood transfusions, septicaemia.

Another most common major complication was Bladder injury in 7 (23.3%) while operating. Most cases were of previous caesarean section with adherent placenta at scar site. Bladder is the nearest organ susceptible to injury during peripartum hysterectomy.

Three patients had developed Surgical Site Infection. Ten patient was developed paralytic ileus and 1 had burst abdomen.

In our study only 4 patient needed ventilator support and 12 patients required inotropic support.

Table 5: Maternal Mortality

Number Of Cases	Mortality	Incidence Of Mortality
30	01	3.2%

In present study maternal mortality is 3.2%. As our hospital is tertiary care teaching hospital, so many patients were referred from other hospitals in condition of shock, DIC, gross intra-peritoneal haemorrhage and intubated for ICU facilities. So even after lifesaving surgery such as obstetric hysterectomy was done, it was difficult to revert the patient as they are already in state of irreversible complications such as DIC, shock, etc.

DISCUSSION

Emergency obstetric hysterectomy still remains necessary for obstetrecian. Knowledge of operation and skill at its performance saves lives in catastrophic rupture of uterus and intractable PPH. In the this study, the mean

age of the patient is 26.23 ± 3.68 years, the mean fetal weight is 2.60 ± 0.60 kg, the mean blood transfusion given per case is 5.73 ± 4.35 units and 1 patient had died.

In the present study 79% patients belonged to age group of 21-30 years which is the peak of reproductive age which is similar to that observed in Devanshi Dave⁵ 69%, Shirodkar D et al, Sharma B et al, and R.K. Praneshwari Devi et al. Whereas in Kant Anita et al⁴, 21-30 years age group comprises 52%, as this was done in Escort hospital where most patients belonged to upper middle and higher socioeconomic class and preferred late marriage hence more patients presented in late age group.

In the present study 63.2% patients were more than 3rd gravida which indicates that multiparity leads to complications like APH and PPH. This is similar to that observed in Devanshi Dave⁵, Kant Anita et al⁴, Shirodkar D et al⁶, Sharma B et al⁷, and R.K. Praneshwari Devi et al⁹. This shows that the incidence of obstetric hysterectomy increases with increase in parity.

The type of admission i.e. booked and emergency is comparable to Kant Anita et al (2005)⁴ and Devanshi Dave⁵ (2018) study.

Reasons for increase in incidence of obstetric hysterectomy in emergency patients are being increased rate of caesarean section that lead to increased incidence of rupture uterus and morbidly adherent placenta and its consequences like bladder injury etc.

Incidence of peripartum hysterectomy is low 0.20 in present study compare to Devanshi Dave⁵ 0.43, Jaya Chawla et al¹⁰ 0.083, Sharma B et al⁷ 0.37, R.K. Praneshwari et al⁹ 0.39. Study as this is a tertiary care hospital, high risk patients requiring blood products, intensive care unit or facility of dialysis are frequently referred to.

PPH is the most common cause for obstetric hysterectomy in our study followed by rupture uterus and morbid adherent placenta. PPH is most common cause also in Kant Anita et al (2005)⁴, Sahasrabhojane Minralini et al (2008)¹¹, Bhat et al (2010)¹², Jaya Chawla et al (2015)¹⁰.

Morbidly adherent placenta is the most common indication of obstetric hysterectomy followed by atonic PPH and rupture uterus, which is parallel to that observed in Karen M. Flood et al (2009)¹⁵ and Sharma B et al (2016)⁷ and R K Praneshwari et al⁹ due to the increased incidence of cesarean sections in modern day obstetrics.

Rupture uterus is the most common cause for obstetric hysterectomy in Pati S. et al (1998)¹⁶

The maternal mortality rate is 3.2 % in the present study which is VERY LOW as compared to several studies. This is due to the fact that our hospital is a tertiary care institute and receives all referral patients from all over SAURASHTRA. By the time the patients arrive in our setup, they are already in a deplorable condition.

Present study perinatal mortality were 26.6% is better perinatal outcome in cases of obstetric hysterectomy in this tertiary care center compared to other Devanshi Dave et al⁵, Patil et al¹⁶ studies because of better NICU facilities in our hospital.

In present study most common complication is occurrence of DIC 29%. In Jaya Chawla et al.¹⁰ study it is 12.5%. In Sharma B. et al⁷ study it is 10%. This shows the changing scenario of occurrence of DIC mainly due to higher incidence of Severe preeclampsia, jaundice and haemorrhage in present study

CONCLUSION

Peripartum hysterectomy is the "near miss event" in both developed and developing country. Obstetric Hysterectomy is still a lifesaving surgery in modern obstetrics. Quick decision for obstetrics hysterectomy reduces maternal mortality

Identification of high risk cases, early referral, timely performance of caesarean section, careful monitoring and resort to procedure like internal iliac artery ligation can reduce the near miss event.

Though peripartum hysterectomy is a life saving procedure in emergency obstetric condition, it represents a painful dilemma for the obstetrician. The decision to perform this operation, especially in primi or in patients with no living children remains a difficult one. So it should be performed judiciously weighing the need to sacrifice the obstetric future of the patient in favour of patient life.

Special provision of blood transfusion facilities, dialysis facilities, good ventilatory support is necessary round the clock. Availability of obstetrician, anesthetist, neonatologist, physician and surgical services round the clock.

Preventive therapy for anaemia, in reproductive age groups. Early diagnosis and management of anaemia in pregnancy are refused. Availability of communication and transport facilities for these emergency patients are required.

Availability of flying squad services for obstetric emergency cases. Provision of emergency ambulance facility services provided by the Government has played a huge role in quicker access for health care facilities. Further such measures will help in reducing maternal and perinatal morbidity and mortality in emergency peripartum hysterectomy.

Reduction in primary caesarean section rate will be helpful to reduce its devastating complications in future pregnancy like rupture of uterus and morbidly adherent placenta and ultimately reduces the need of obstetric hysterectomy. Thus this will be helpful to reduce maternal morbidity and mortality in long run.

Most of the morbidity is attributable to its indication and underlying disorder rather than the procedure itself. Training of obstetrician in emergency peripartum hysterectomy is very much necessary to reduce the event.

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Case Report

A Rare Case of 38 Weeks Foetus with Complex & Multiple Congenital Anomalies/ Malformations

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KEY WORDS : Congenital anomalies, Normal delivery, Sonography.

ABSTRACT

Pregnancy with complex & multiple congenital anomalies (Holoprosencephaly-semilobar, Corpus callosum agenesis, Lumbar meningomyelocele with open spina bifida, kyphoscoliotic deformity, bilateral club feet, Lt. renal agenesis, cerebellar herniation (Chiari Type-2 malformation), reversal of a-wave in ductus venosus.

INTRODUCTION & CASE REPORT

A 28 year old woman, primigravida was referred for antenatal sonography at 38 weeks of pregnancy to radiology department of SMS Hospital.

No history of consanguineous marriage. Husband has cleft lip for which he underwent surgery in childhood.

On sonography examination complex & multiple congenital anomalies like (Holoprosencephaly-semilobar, Corpus callosum agenesis, lumbar meningomyelocele with open spina bifida, kyphoscoliotic deformity, bilateral club feet, Lt. renal agenesis, cerebellar herniation (Chiari Type-2 malformation), reversal of a-wave in ductus venosus were found.

Patient's delivery was normal. Meningomyelocele sac ruptured during delivery.

All the findings were confirmed with postnatal sonography, MRI Brain & X-Ray babygram.

CASE DISCUSSION

The term **holoprosencephaly** refers to a group of disorders arising from a failure of normal forebrain development during early embryonic life. The reported incidence of holoprosencephaly is approximately 0.6/1000 live births.

In holoprosencephaly, a single embryologic defect affects the development of both the brain & face. In semi lobarholo prosencephaly - absence of septum pellucidum, a monoventricular cavity with rudimentary occipital horns is present. A rudimentary falx & interhemispheric fissure forms caudally, resulting in partial formation & separation of discrete occipital lobes. The olfactory bulbs & corpus callosum are usually

absent. Again, the thalami and basal ganglia tend to be fused. Facial deformities like cyclopia, ethmocephaly, cebocephaly & median cleft lip.

SONOGRAPHIC APPEARANCE

Dilatation of occipital horns of lateral ventricles (Colpocephaly). Frontal horns appear pinched. Third ventricle is seen between the frontal horns. Cavum septum pellucidum is not visualised. Absence of corpus callosum and radiating sulci & gyri are imaged in sagittal sections.

Facial cleft defect seen in upper lip & or palate. The defect can be unilateral or bilateral. Coronal scan will reveal asymmetry of the nostrils. Soft tissue protrusion is seen on midsagittal scan when there is bilateral cleft lip and palate or when there is large unilateral cleft lip and palate.

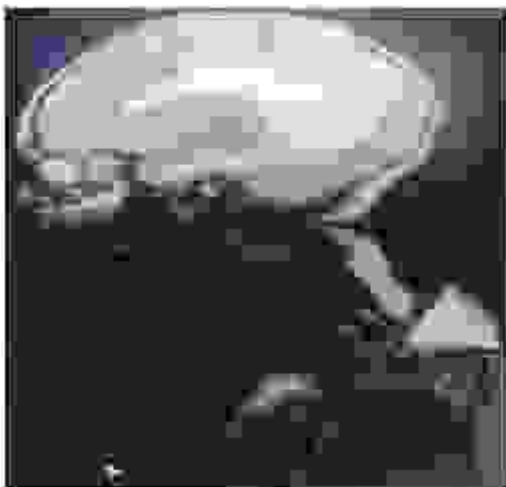
Fig.1 : Sonography-Holoprosencephaly-Semilobar, corpus callosum agenesis



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Fig. 2 : T2 W Sagittal MRI brain Monoventricle with partially developed occipital & temporal horns



Cerebellar herniation (Chiari malformation type 2) :

Chiari malformation type 2 (CM type II) is a type of Chiari malformation in which both the cerebellum and brain stem tissue extend into the foramen magnum. CM type II is usually accompanied by a myelomeningocele (a form of spina bifida that occurs when the spinal canal and backbone do not close before birth), which can result in partial or complete paralysis of the area below the spinal opening. While the severity of CM type II can vary greatly, it can potentially cause serious complications during infancy or childhood. The exact cause of CM type II is not known but it appears to be due to defects in the brain and spinal cord that occur during fetal development.

Chiari II malformations are encountered relatively commonly, with an incidence of ~1:1000 live births . When a child is born with a myelomeningocele, the vast majority (~95%) have an associated Chiari II malformation.

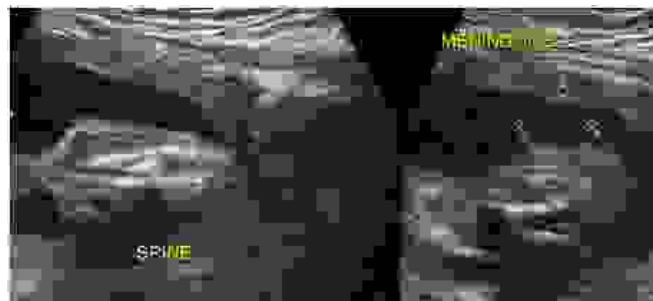
Lumbar meningomyelocele with open spina bifida & kyphoscoliotic deformity :

Meningomyelocele is the second most common open neural tube defect. Isolated Meningoceles are rare by comparison with meningomyeloceles. These lesions may occur anywhere along the spine but are most common in the lumbar and sacral regions. The malformation results from failure of closure of the neural tube (caudal neuropore) at 3 to 4 weeks, resulting in an exposed neural plate.

Sonography : Transverse axial sonogram of the lumbar spine shows spina bifida lesion, meningomyelocele sac and “splaying” of posterior ossification centers.

Longitudinal sonogram of lumbar spine shows meningomyelocele sac

Fig. 3 : Sonography-Spina bifida with meningomyelocele



Unilateral renal agenesis

Absence of ureteral bud formation occurs in approximately 1 in 4000 births and causes bilateral renal agenesis.

The incidence of unilateral renal agenesis -probably occurs 4 to 20 times more commonly than does bilateral renal agenesis.

Fig. 4 : Sonography-Absent Lt. renal artery-Lt. renal agenesis



Club foot (Talipes equinovarus) Results from equinus, varus and adduction deformities. ‘Talipes’ means the ankle & foot, ‘equinovarus’ refers to the position that the foot is in. Clubfoot occurs in approximately 1 in 250 to 1000 births. In most cases of talipes equinovarus the foot is plantar flexed and inverted.

In talipes equinovarus the foot deviates medially at the ankle and remains fixed at a right angle to the distal tibia & fibula. This causes the long axis of the foot to reside in the same longitudinal plane of section as the tibia & fibula. i.e. Persistent imaging of the coronal view of the sole of the foot along the leg.

Ductus venosus-a-wave reversal:

Reversed a-wave in ductus venosus is associated with increased risk of trisomy 21, preeclampsia, and Gestational diabetes mellitus

Fig. 5 : Sonography- Club foot



Fig-6 & 7 : X-Rays – Kyphoscoliosis with bilateral club feet

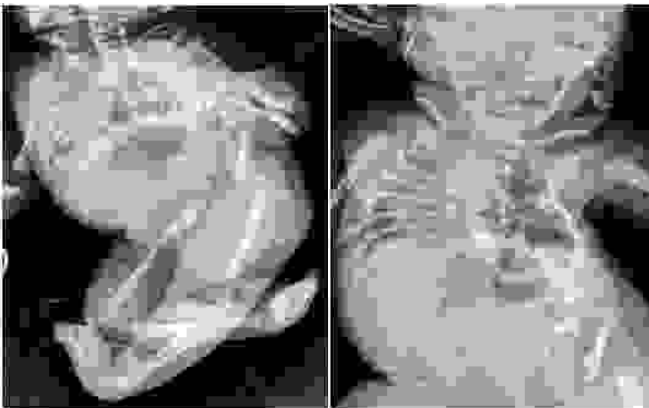


Fig. 8 : Club Foot, Meningomyelocele, Kyphoscoliosis



CONCLUSION

Sonography is the most important diagnostic modality for prenatal diagnosis of congenital anomalies & timely termination of foetus.

NT (Nuchal Translucency) scan & second anomaly scan should be routine part of every pregnant patient.

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Case Report

A Case of Central Retinal Vein Occlusion Post COVID Vaccination

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KEY WORDS : Central Retinal, Vein, Occlusion, Covid Vaccine

INTRODUCTION

Common risk factors for Central retinal vein occlusion include hypertension, cardiovascular disease, glaucoma, diabetes mellitus, and, in young patients, hematologic disorders^[1].

Authors report here a case of 24 years old young male without any commodities who developed central retinal vein occlusion (CRVO) post COVID-19 vaccination.

CASE

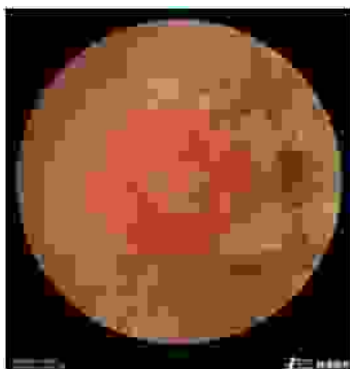
A 24 years old male came to our opd with chief complaint of diminision of vision since one month which was sudden in onset, painless & non progressive.

He had no past history of any ocular surgery or any systemic illness. On medical history patient reported that he had second dose of COVID-19 vaccine 1 month back and 3 to 4 days later he had diminished vision.

OPHTHALMIC EXAMINATION

Vision was 6/36 in right eye 6/6 in left eye with normal intra ocular pressure. He had normal orbit structure with full extra ocular movements. His anterior segment of both eyes was with in normal limits. His left eye fundus was with in normal limit's but right eye fundus examination showed dot and flame haemorrhages in all quadrants with dilated tortuous veins along with macular changes most probably macular edema (Fig1), which clinically made our most probable diagnosis central retinal vein occlusion with macular edema.

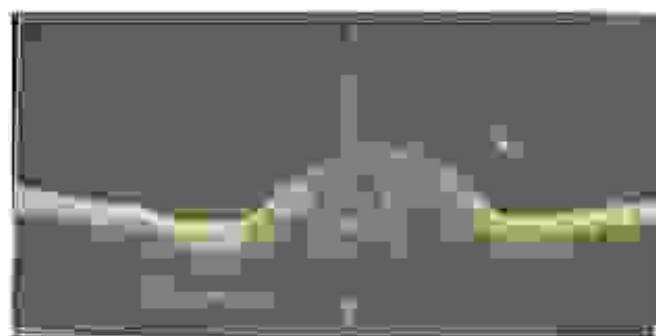
Figure 1: Right eye fundus photo showing dilated and tortuous veins with dot and flame haemorrhages with macular edema.



INVESTIGATION

We ordered for OCT for both eyes, left eye was with in normal limits but OCT of right eye showed cystoid macular edema (Fig2).

Figure 2: Right eye OCT showing cystoid macular edema on first visit.



Patient was asked to get blood investigation which included complete blood count, ESR, random blood sugar, serum homocysteine, serum creatinine, antithrombin III, coagulation protein C and S, Factor V Leiden, rheumatoid factor, ANA, Anti phospholipid antibodies VDRL, FTA-ABS, HIV, lipid profile also for monitoring of blood pressure at physician. All the these investigations were with in normal limits.

COVID-19 IgG & IgM were requested, which were highly raised which coincided with recent vaccination history. This suggest an association between central retinal vein occlusion and COVID-19 vaccination.

MANAGEMENT

We planned to give patient intra vitreal anti VEGF (bevacizumab 1.25mg injection) for macular edema in right eye.

6 intra-vitreous injection of Anti VEGF on monthly intervals were given in right eye after which patient had improvement in vision to 6/24 in right eye. By 7th month we planned for pan-retinal photo coagulation in two seating's. On follow up i.e. 8th month patient's vision was

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6/24 with OCT showing decrease in height of macular edema (Fig 3) and we decided to give intra-vitreous Anti-VEGF. By 9th month later on follow up his right eye vision had improved to 6/12 and OCT showed few cystic spaces (Fig 4), we had planned for Anti VEGF with intra-vitreous triamcinolone (2mg/0.1ml).

We started patient on Dorzolamide with Timolol eye drops twice a day along with nepafenac eye drops 3 times a day and asked him to follow-up after a month.

On 10th month of his follow up patient had vision of 6/9 in right eye also the OCT showed resolved macular edema (Fig 5).

Figure 3: Right eye OCT showing resolving cystoid macular edema with decrease in height on 8th month.



Figure 4: Right eye OCT showing few cystic spaces at macula on 9th month.



Figure 5: Right eye OCT showing resolved cystoid macular edema on 10th month.



DISCUSSION

The pathogenesis of central retinal vein occlusion (CRVO) is based on Virchow's triad of hemostasis, hypercoagulability and endothelial damage^[2]. Our patient had no previous history of any of systemic conditions and all blood investigation were within normal limits, except raised Covid IgG & IgM.

There were thromboembolic & deep vein thrombosis cases were noted after immunization with Oxford–AstraZeneca, Janssen vaccines and Pfizer vaccine respectively^[3,4,5,6]. Retinal microvascular changes have been reported with COVID-19, including subtle cotton

wool spots and microhemorrhages but not a retinal vascular occlusion^[7].

Although CRVO is not a life-threatening thrombotic phenomenon, it is important for ophthalmologists to be aware of a possible causal and temporal association with COVID-19 vaccination, particularly in young patients with no known systemic risk factors or comorbidities.

In this case since there was no previous risk factor or any positive blood investigation for hypercoagulable state this must be an event of central retinal vein occlusion after COVID vaccination.

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Case Report

Posterior Forniceal Rupture in Pregnancy

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KEY WORDS : Posterior, Forniceal, Rupture, Pregnancy

INTRODUCTION

Uterine rupture during labor, when it is in the immediate vicinity of the cervix, frequently extends transversely or obliquely. Usually the tear is longitudinal when it occurs in the portion of the uterus adjacent to the broad ligament. We report an unusual case of uterine rupture through posterior vaginal fornix of the posterior lower uterine segment. Subjective symptoms of abdominal pain or objective findings of non-reassuring fetal status and loss of fetal station are often indicative of this disease process, which most commonly is caused by a defect on the uterus from the cesarean delivery. Any uterine surgical intervention (myomectomy, for example) is the leading risk factor for uterine rupture.

CASE

A 32 year old pregnant female, G6P5L5 with previous 5 vaginal deliveries (LB- 1 year) at 34 week 4 day gestation referred from CHC Sihor in view of obstructed labour, presented with complain of lower abdominal pain and decreased fetal moment from 10 hours. She had no antenatal complications in current pregnancy On examination, pulse:- 116/min; BP:- 130/90mmhg Spo2:- 98% on room air, pallor +; no oedema and icterus present . On Per abdominal:- Uterus 32-34 week size, Transverse lie, Head in left lumbar region, FHS not located by stethoscope, Fetal parts felt subcutaneously, lower uterine segment empty, Contracted Uterus felt seperated from fetal parts examination; On Per vaginal examination:- cervix 2cm dilated, early effaced, Liquor-blood stained, cervix taken higher up. Her initial investigations were:- Hb:- 9.9g/dl, TC:- 16200/CMM, PC:- 3.05lac/cmm; RBS, RFT,LFT, PT-INR were normal. Patient was diagnosed with IUFD + Ruptured uterus and was taken for immediate Cesarean section under spinal anaesthesia. Intraoperatively, Fetus was found inside abdominal cavity and fresh still birth was delivered. On gross examination, there was 50 ml hemoperitoneum found and 50 gram clots removed and 6 cm transverse

rent present on posterior fornix of vagina and 2 cm vertical tear present in middle and upper part of posterior vaginal wall. Both the tear repaired and 1 pint RCC transfused. Post operatively 1pint RCC and 2 pint FFP was transfused and kept on higher antibiotics. Patient was discharged after 1 week as patient was vitally stable with no complications.

Fig. 1



Fig. 2



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DIAGNOSIS

Diagnosis made by clinical examination and Intra-operative findings.

DISCUSSION

we should keep in mind that unprecedented concealed rupture of vagina and uterus do occur. Each women in labour should be monitored carefully and more vigilance is required in the unsuspected multigravidas especially those with lax abdominal muscles. Precipitate labour is common in multiparous women. Vigorous uterine contractions with a noncompliant vaginal wall is incriminated in vaginal lacerations

CONCLUSION

Silent uterine rupture is very rare and easy to ignore due to nonspecific clinical symptoms, unexplained haemoglobin reduction and haemoperitoneum, but these features caution us to more closely consider uterine

rupture in patients. Posterior Cul-de-sac rupture might happen without any predisposing risk factors. Also, the vague and unspecific symptoms -mainly, sudden abdominal pain-can delay the diagnosis of such an entity.

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Case Report

A rare case of bronchiectasis with superimposed ILD secondary to ? cause- Sjogren Syndrome vs Rheumatoid Arthritis

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KEY WORDS : ·Bronchiectasis, Interstitial Lung Disease, Sjogren Syndrome

ABSTRACT

Bronchiectasis is an umbrella term defined by abnormal, permanent dilatation of bronchi characterized by respiratory symptoms, cough, sputum production resulting from chronic infection, and inflammation.^[1] The prevalence of post-TB bronchiectasis is steady with the high burden of TB, India being positioned second among countries with a high TB burden.^[2] Primary Sjögren's syndrome was originally described in 1926 by Gougerot.^[3] Its prevalence is estimated at 0.5% with a female preponderance.^[4] It is the second most common multisystem autoimmune disease after rheumatoid arthritis, and is characterised by eye and mouth dryness and lymphocytic infiltration of the salivary glands.^[5] RA is a systemic inflammatory disease that affects approximately 1% of the population,^[6] and pulmonary involvement is common. ILD is the primary pulmonary manifestation of RA, as it is for other connective tissue diseases.^[7-12] In our case, a 60 year old female with past history of tuberculosis developed bronchiectasis with superimposed ILD secondary to either Sjogren Syndrome or an untreated RA.

INTRODUCTION

There are many reported causes of bronchiectasis, but post- infectious type especially following TB is still the main aetiology. It was previously reported that TB patients had a frequency of bronchiectasis that ranges between 19% and 65% with higher incidence in fibrotic stage of the disease.^[13, 14] Sjögren's syndrome is a chronic, autoimmune disease. It can occur alone or with other autoimmune conditions like RA or lupus. Lung involvement in Sjogren's syndrome occurs in ~9–20% of patients in the form of ILD, airway abnormalities and lymphoproliferative disorders.^[15]

CASE HISTORY

A 60 year old female presented to OPD with c/o breathlessness (grade 3 mMRC) since 2 months associated with dry cough and anasarca since 1 month.

Past History : Patient had past history of Pulmonary TB one year ago for which she had taken 6 months of AKT and turned sputum AFB negative. One year ago, she was also diagnosed with Rheumatoid Arthritis for which she has not taken any treatment.

Family History- Patient's father had asthma.

Personal history- Patient is a chulhauser since 20 years. No significant drug history/addiction.

INVESTIGATIONS

RFT, LFT, serum electrolytes and Urine Routine Micro was normal.

HIV, HbsAg, HCV were negative.

ANA: 3+, speckled granulated ribosomal P protein

ANA profiles/o ?MCTD ??Sjogren's syndrome

- nRNP / Sm (U1-nRNP): +++
- SS-A: +++
- RO-52: +++

Anti SS-A / RO-60 by ELISA was positive.

Schirmer test (<1 mm in both eyes after 5 minutes) s/o dry eyes.

Sputum Analysis was Normal.

ECG was s/o low voltage complexes in limb leads.

USG Abdomen Pelvis s/o Altered hepatic echotexture with dilated IVC with altered splenic echotexture with gross ascites with peri-GB cuffing with echogenic mesentery possibly secondary to ascites.

Ascitic Fluid Analysis showed exudative fluid with Lymphocyte predominance.

(Fluid Total count : 500, Protein : 4.7, Albumin : 1.8, ADA : 17, LDH : 275)

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Investigation	Result	Reference Range
Haemoglobin	10.9 gm%	13-17 gm%
Total Count	5600 cells/cumm	4000-11000 cells/cumm
Platelets	2.03 lacs/cumm	1.5-4.5 lacs/cumm
ESR	12 mm	<20 mm
CRP	13.16 mg/l	0-6 mg/l
Serum TSH	4.79mIU/ml	0.39-5.0 mIU/ml
RA Factor	>100	<10
Anti CCP	0.9	<5
Serum Uric Acid	10.4 mg/dl	3-5.3 mg/dl
Serum Total Protein	8.3 gm%	6-8 gm%
Serum Albumin	2.7 gm%	2.7-5 gm%

2d Echo s/o RA &RV dilated with preserved LVEF with severe TR with severe PAH (PASP- 60 mmhg)

ABGA(on SPO2- 86% at room air) s/o Hypoxemia.

Chest X-RAY s/o Diffuse reticular opacities with ill defined round lucencies noted involving bilateral lung fields with Differentials of (1) Cystic Bronchiectatic changes (2) Emphysematous bulla (3) Cavitary lesions.

HRCT Thorax s/o Fibrocystic changes, Bronchiectasis and honeycombing diffusely involving left lung & right lower lobe causing significant architectural distortion & lung parenchymal loss, possibility of sequalae to Old Infective Etiology or Interstitial Lung Disease.

Respiratory Medicine Reference was s/o cystic bronchiectasis with superimposed ILD.

Fig 1 : Chest X ray of the patient showing diffuse reticular opacities in bilateral lung fields



Fig 2 : HRCT Thorax of the patient showing cystic bronchiectasis with superimposed ILD



MANAGEMENT

Patient was given 5 days of injectable methylprednisolone pulse therapy after which she dramatically improved. After this, she was started on oral steroids and oral antifibrotic drug named Pirfenidone. Chest Physiotherapy and Respirometer exercise played an essential role. At the time of discharge, she was maintaining 92% of oxygen saturation on room air.

DISCUSSION

Patient developed bronchiectasis secondary to Pulmonary Koch's. Patient was not on treatment for Rheumatoid Arthritis after which she possibly developed Rheumatoid arthritis associated secondary Sjogren's syndrome. Interstitial Lung Disease can either be due to Rheumatoid Arthritis or Sjogren's syndrome in this patient.

CONCLUSION

Our case underscores the need of careful history taking and a thorough clinical examination. Co-existence of bronchiectasis with TB has distinctive clinical, and functional characteristics that increase the burden of the diseases in the form of prolonged hospital stay and higher utilization of antibiotics and oxygen therapy. The presence of ILD is associated with impaired respiratory function. Importantly, pulmonary involvement in Sjogren's syndrome leads to increased risk of mortality. Hence early diagnosis and treatment is essential. Corticosteroids and antifibrotics are mainstay of treatment in ILD. However, chest physiotherapy and spirometry played an important role in patient's recovery.

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ABBREVIATIONS :

ILD- Interstitial Lung Disease
RA- Rheumatoid Arthritis
CTD- Connective Tissue Disorder
TB- Tuberculosis
AKT-Anti Koch's Treatment
AFB- Acid Fast Bacilli
IVC- Inferior Vena Cava
GB- Gall Bladder
RA- Right Atrium
RV- Right Ventricle

LVEF- Left Ventricular Ejection Fraction
TR- Tricuspid Regurgitation
PAH- Pulmonary Artery Hypertension
PASP- Pulmonary Artery Systolic Pressure
ABGA- Arterial Blood Gas Analysis
RFT- Renal Function Tests
LFT- Liver Function Tests
ANA- Anti Nuclear Antibody
ECG- Electrocardiogram

CASE REPORT

Management of bicornuate uterus non-communicating rudimentary uterine horn:

A case report

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KEY WORDS : Mullerian duct abnormality, Uterus bicornuate non-communicant rudimentary horn

ABSTRACT

A pregnancy in a non-communicant rudimentary horn is a rare but serious complication. Patients with bicornuate uterus non-communicating have an increased risk of obstetrical complications, such as abortion, intrauterine growth restriction, and fetal demise. Uterus bicornuate non-communicant rudimentary horn (UBNCRH) is a rare malformation of the uterus. The presence of uterus bicornuate non-communicant rudimentary horn poses a great challenge for a gynecologist because that occurs due to the transperitoneal migration of the sperm or the zygote during the implantation period and the Mullerian anomalies are often asymptomatic. We report a case of 29-year-old female with primigravida singleton pregnancy with pain and vaginal bleeding in the 19 weeks 3 days of gestation with a UBNCRH.

INTRODUCTION

Bicornuate uterus is a Mullerian anomaly that is produced due to impairment in fusion of two Mullerian ducts. Accounts for 25% of uterine anomalies. Overall incidence is 3% to 5%

Bicornuate uterus is diagnosed by: **On Ultrasound:** uterine duplication with invagination of fundus. 'V' sign is spacing between the horn and urinary bladder. **On HSG:** Interornal angle more than 105 degrees suggest bicornuate uterus. **On MRI:** Fundal invagination more than 1 cm. Successful pregnancy outcome is 62.5%. Other complications are Preterm delivery, Abortion and malpresentation.

Unification operation (**Strassman technique**) is indicated with good outcome in women with multiple spontaneous abortions with bicornuate uterus is absence of other cause. Caesarean section is indicated following metroplasty.^[1]

A pregnancy in the non-communicating horn of bicornuate uterus is a rare form of gestation that occurs due to the transperitoneal migration of the sperm or the zygote during the implantation period. Its incidence is of approximately 1/100,000 to 1/140,000 pregnancies^[2]. 75–80% of pregnancies occur in the non-communicant rudimentary horn and is often associated with ectopic pregnancies^[3]. The risk of uterine rupture is up to 90% and occur by the end of the second trimester^[4]. The

maternal and fetal prognosis in unrecognized rudimentary horn ectopic pregnancies is poor, with an average neonatal survival rate of 6% and the rate of uterine rupture close to 80%^[5].

CASE REPORT

A 29-year-old primigravida 19-week 3-day pregnant women came to the Gynecology department, SIR T hospital with chief complaint of lower abdominal pain and spotting per vagina since one day. Patient came with USG fetus suggestive of IUFD in right horn in bicornuate uterus. (figure 1)

On general examination: patient was not pale and vitally stable with 96/min pulse and 110/80 mmHg BP. Abdomen was soft, no tenderness present. Uterus was found 14 weeks sized. On per vaginal examination: uterus was 14–16 week sized, on right side approx. 4*3 cm mass was felt. cervix was soft and cervical os admitted 1 finger. single cervix with no bleeding was found on speculum examination

Right cornu containing Single intrauterine fetus 15-week 3-day maturity with no cardiac activity was found in transvaginal sonography. Left cornu was normal.

After informed consent the patient opted for induction of labour by 30 cc intracervical catheter and 0.5 mg cerviprime gel. After single induction, a uterus bicornus with cornus rudimentarius was suspected. Vaginal

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Figure-1

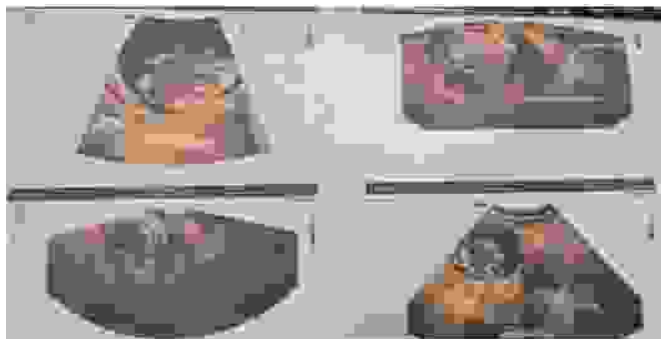


Figure 2 : An intraoperative visualization of a bicornuate uterus with pregnancy development in the right horn that does not communicate with the vagina. The left rudimentary horn is empty.



access to the right uterine horn could not be achieved. The dilation using Hegar dilator was only possible in the left empty uterine horn. The access to the right horn, in which the pregnancy was located, could not be found with a uterine probe. So, patient was prepared for laprotomy.

During intraoperative period, uterus was found bicornuate uterus. An incision was made on the anterior wall and fetus and placenta parts were removed (figure 2). No internal cervix or access to the cervix could be visualized or palpated. Overall, a bicornuate uterus with unilateral right horn atresia was assumed, in which the pregnancy was caused by sperm migration through the abdominal cavity through the contralateral tube. Resection of the obliterated horn, or at least the right tube, was recommended to avoid recurrence.

Patient was stable in postoperative period and counselled regarding caesarean section in next pregnancy.

DISCUSSION

Mullerian duct anomalies are generally rare and often associated with increase perinatal morbidity and mortality. These abnormalities occur in 0.1–3% of women and are often associated with reproductive problems such as miscarriages, premature labour, premature rupture, or malpresentation^{[6],[7],[8]}. Early diagnosis is difficult, which is why pregnancy in a rudimentary horn is often only revealed by rupture of the rudimentary horn [2]. The time of rupture varies between the 5th and 35th week of gestation, depending on the strength of the myometrium. Pregnancy in a rudimentary horn has a poor reproductive potential and requires close monitoring. In asymptomatic women, the presence of bicornuate uterus may not be detected until during pregnancy or delivery^{[8],[9]}. The sensitivity of sonography reaches approximately up to 26%. Obstetrical outcomes are generally reported to be better in cases of bicornuate uterus in comparison to unicornuate uterus^[6]. Ultrasound in early pregnancy has a major rule in the early diagnosis. Magnetic resonance imaging (MRI) can be a useful non-invasive diagnostic tool^[10]. The wide reported range of the incidence of rudimentary horn pregnancies reflects the rarity of the condition^{[11],[12],[13]}. Only 14% of cases are diagnosed prior to clinical manifestation, usually in the second trimester^{[14],[15]} because rudimentary horns are frequently not diagnosed prior to pregnancy^[15]. The low diagnostic suspicion may be attributed to the absence of clinical symptoms in pregnancy. When symptoms such as retrograde menstruation, abdominal pain, dysmenorrhea and fertility are present, a non-rudimentary horn can be suspect. Transvaginal sonography, although the method to investigate adnexal pathology, has a low sensitivity (26–33%) for the diagnosis of a rudimentary horn even before pregnancy. Three-dimensional ultrasound and pelvic MRI scan have become standard imaging modalities for the characterization of Mullerian anomalies. The standard treatment consists of immediate excision of the pregnant rudimentary horn due to the high risk of rupture^{[11],[14],[15]}.

CONCLUSION

The presence of uterus bicornuate non-communicant rudimentary horn poses a great challenge for a gynecologist because that occurs due to the transperitoneal migration of the sperm or the zygote during the implantation period and the Mullerian anomalies are often asymptomatic.

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