Festschrift

SRI BALAJI VIDYAPEETH DEEMED UNIVERSITY

MAHATMA GANDHI MEDICAL COLLEGE

& RESEARCH INSTITUTE

PILLAIYARKUPPAM, PUDUCHERRY – 607 403

DEPARTMENT OF SURGERY

Organizes

CONFÈRENCE NATIONALE SUR GASTROINTESTINAL

SUPÈRIEUR ET CHIRURGIE HÈPATOABILIAIRE

This is a special volume in honor of Prof. N.Ananthakrishnan on the occasion of his 70th Birthday

FESTSCHRIFT

noun Fest·schrift \fes(t)-shrift\

DEFINITION OF FESTSCHRIFT

A volume of writings by different authors presented as a tribute or memorial especially to a scholar

Source: http://www.merriamwebster.com/dictionary/Festschrift

In academia, a **Festschrift** (German pronunciation: [ˈfɛstʃrɪft]; plural, *Festschriften* [ˈfɛstʃrɪftən]) is a book honoring a respected person, especially an academic, and presented during his or her lifetime. The term, borrowed from German, could be translated as *celebration publication* or *celebratory (piece of) writing* (literally 'party-writing'; cognate with 'feast-script'). A comparable book presented posthumously is called a **Gedenkschrift** (*memorial publication*). Sometimes, the Latin term ***liber amicorum*** (literally: "book of friends") is used for a Festschrift. The German word *Festschrift* has been incorporated into the English language. A Festschrift contains original contributions by the honored academic's close colleagues, often including his or her former doctoral students. It is typically published on the occasion of the honoree's retirement, sixtieth or sixty-fifth birthday, or other notable career anniversary.

Source: https://en.wikipedia.org/wiki/Festschrif

SRI BALAJI VIDYAPEETH

World Class Facilities

Sri Balaji Vidyapeeth features best of the class facilities at all its centers and institutions, powering highest standards of education, clinical services and research.

Progressive Curriculum

The University sets and follows a progressive curriculum focused on acquiring and retaining critical theoretical knowledge, honed practical skills and applied scientific temper.

Research Oriented

Research is top priority at SBV and forms one of its core competencies, driving Innovation in Healthcare Delivery, Focus on Evidence Building for Traditional Medical Heritage of the Nation.

Vision for the Future

SBV aims to positively impact the future of Healthcare in India and its graduates are future ready professionals, trained for practicing ethical, effective evidence based healthcare.

Objective Evaluation

Across all disciplines, the Deemed University's critically acclaimed evaluation system is designed to be fully objective, sensitive to student performance and stress free.

Young & Modern

SBV is a young university, with firm roots in cultural ethos yet modern in its views and outlook, ready to take on Challenges in Healthcare Education, Services and Delivery.

MAHATMA GANDHI MEDICAL COLLEGE AND RESEARCH INSTITUTE

ABOUT THE DYNAMIC DRIVING FORCE

MGMCRI – Mahatma Gandhi Medical College and Research Institute, is a leading medical institution in Pondicherry. Drawing its name from the great patriotic driving force, emancipator and Father of our Nation – Mahatma Gandhi, it stands upright, true to its lofty name and fame. Under affiliation to Sri Balaji Vidyapeeth, a Deemed University, a NAAC Accredited with "A" status, MGMCRI offers an amicable and academically challenging environment with an excellent reputation for teaching quality, state-of-the-art study and treatment facilities by it supportive staff. Nationally commended for its academic contributions to professional health education, our Institution serves a highly unique and culturally diverse student body and upholds excellent quality standards, academic advancement and personal growth among its students.

OUR BEAUTIFUL LOCATION AND SURROUNDINGS

Mahatma Gandhi Medical College and Research Institute stands strikingly as an architectural beauty, with its massive structures on the east coast road, at Pillaiyarkuppam, between Puducherry and Cuddalore. Strategically located on the NH-45A National Highway, very close to Cuddalore town and 14 kms from Puducherry, it provides a gamut of medical services to the numerous urban and rural public in the surroundings

CORE SERVICES

Patient Services, Adult and Paediatric patient care - Each year, Mahatma Gandhi Medical College & Hospital treats more than 4,60,000 adults and children patients, with its highly professional and dedicated team of physicians, surgeons, nurses, assistants, and fully equipped and well maintained departments.

The out-patient services daily handles approximately 1300 patients on an average. Housing a 750 in-patient beds, the general wards are spacious,

adequately ventilated and illuminated with an occupancy rate presently at about 85%.

The hospital provides casualty and emergency medical services round the clock, along with fully-equipped ambulance service. A 24-hours blood bank is in a state of readiness to develop into a full-fledged department of transfusion medicine. Varieties of minor and major surgical procedures are performed in 10 state-of-the-art OTs. Closed-circuit televisions are provided for medical students to view various operative procedures from outside the operation theatres.

Our intensive care units are equipped with essential critical care equipments and cater to the special needs of critically ill patients.

The hospital is endowed with advanced equipment such as Cath Lab, spiral CT, MRI, fully automated random access blood chemistry analyzer, chemiluminescence analyzer, treadmill, computerized RCG, and a flexible fibreoptic bronchoscopy unit.

Haemodialysis, neonatal ventilators, PUVA photochemotherapy, biofeedback, and sinus endoscopy procedures are part of our therapeutic armamentarium

ACADEMIC & RESEARCH ACTIVITIES

All academic activities of the faculty members are co-ordinated by the Scientific and Academic Forum of MGMCRI. This forum organizes scientific meetings once a month. Biomedical research receives high priority at MGMCRl. Our institution liaison with governmental and non-governmental organizations for research grants. All research activities are supported and co-ordinated by the Research Committee of MGMCRl.

COMMUNITY SERVICES

Our institution subscribes to the view that outreach healthcare programs are a boon to the community and society at large. True to its commitment to public health, MGMCRl conducts 2 free medical camps every

month for underprivileged rural population. In addition, we have 1 established Rural Health Centre at Seliamedu and 1 Urban Health Centre at Ariyankuppam. In appreciation of our healthcare services, the Government of Puducherry has allotted 2 Primary Health Centres, one at Kirumampakkam and the other at Nettapakkam.

OUR EDUCATIONAL PHILOSOPHY

Our full-fledged Hospital offers vast and varied clinical material to all our students to gain exposure and suitable academic training along with in-depth knowledge for practical professional development. At MGMCRI, strong emphasis in laid on implementation of the undergraduate medical curriculum involving bed-side clinical training. A humane and holistic approach to healthcare is practiced, taught and imposed on all levels. Emphasis is on moulding a 'complete' physician who will cure the 'patient' and not just treat the 'disease'. In addition, our students are taught to be competent and well-versed in conventional and advanced medical setups.

PEDAGOGIC INFRASTRUCTURE

MGMCRI conducts every lecture, academic program and conference in world-class lecture theatres. All these lecture halls are air-conditioned, spacious and are equipped with computers and a complete set of basic and advanced audio-visual aids, including the ubiquitous LCD projector. Many of the undergraduate lectures are woven around interesting PowerPoint presentations. These facilities make the teaching-learning process a stimulating and enjoyable experience for our students.

RESOURCEFUL PERSONNEL

All departments at MGMCRI, have qualified, experienced and learned faculty as per the norms laid down by the Medical Council of India. They are well-versed in the appropriate use of various teachinglearning methods and media. The quality of medical education at MGMCRI is constantly monitored and upgraded by a dedicated Medical Education Unit. This unit ensures that our students receive optimal training in the cognitive, affective and psychomotor domains. Our institution regularly deputes its faculty members to attend training programs in medical education technology such as the

National Course on Educational Science for Health Professionals conducted by NTTC, JIPMER, Puducherry and the Educational Leadership Development Program of the PSG-FAIMER Regional Institute, Coimbatore. Apart from these activities, the Medical Education Unit of MGMCRI conducts periodic in-house training programs including microteaching sessions to ensure that our medical teachers stay in touch with recent advances in medical education.

INNOVATIVE TEACHING LEARNING METHODS

Our study programs and teaching methods are in line with international standards and continuously undergo self-evaluation and self-improvement by means of internal and external quality validation. Among our faculty and staff we give emphasis to qualities as innovation, flexibility and a continuous sense of advancement.

STUDENTS AND RESEARCH

The Indian Council of Medical Research (ICMR) conducts Short Term Research Studentship Program in order to promote interest and aptitude for research among medical undergraduates. According to the program's mission statement, "the main objective of this program is to provide an opportunity to undergraduate medical students to familiarize themselves with research methodology and techniques by being associated for a short duration with their senior’s ongoing research program or by undertaking independent projects." We ensure that the students at MGMCRI get opportunities to participate in these ICMR projects.

FUTURISTIC APPROACH

MGMCRI desires to remain competitive in the world's rapid march towards IT-enabled medical education. Our faculty members are already aware of how modern and powerful computer technology can be used to enhance the quality of medical education. With a steadily expanding infrastructure, we are poised to take on the demands and challenges involved in the implement of advanced electronic pedagogical techniques such as e-learning, web-based/ computer-based learning.

DEPARTMENT OF GENERAL SURGERY

General Surgery is one of the major departments in Mahatma Gandhi Medical College and Research Institute. It has been around since the inception of the institute (2001) and over the period has grown into a large force boasting of academically renowned professors, competent faculty, well equipped operating theatre and an endoscopy suite. It now caters to a large population base in and around Pondicherry as well as patients from afar. It is also one of the premier referral centres in this area. For almost a decade now, the department has been imparting knowledge to the undergraduates (MBBS) and since the year 2007 has been training the postgraduates through the MS programme. Both are certified and recognized by the Medical Council of India. We provide comprehensive health care to all the patients who are in need. Apart from the routine surgical work all major surgical as well as minimally invasive procedures are performed at our institute.

CLINICAL

The department is equipped with well furnished operating theatre. The patients are operated on an elective basis on all working days. The procedures range from hernioplasty through mastectomy, thyroidectomy to supra-major surgeries such as abdominoperineal resection and Whipple's procedure. Laparoscopic cholecystectomy and appendicectomy and advanced procedures like TAPP and TEPP and Hiatal Hernias are also performed routinely. The department also accepts patients from the Casualty 24 x 7. If any surgical procedure is deemed necessary, it is preformed the same day. The faculty on duty are available round the clock.

ENDOSCOPY SUITE

The endoscopy suite is replete with antwo upper and lower GI videoendoscopes with recording/playback facility. We routinely perform diagnostic and therapeutic procedures endoscopically. Large number of patients benefit from this minimally invasive procedure. Diagnostic procedures include H.pylori testing, tissue biopsy, brush cytology.

Deployment of stents in inoperable oesophageal cancers as well as banding or injection sclerotherapy for bleeding are done.

TEACHING

Undergraduate training

The undergraduates are taught by extensive use of audio-visual aids to reinforce their understanding of the subject. The curriculum followed is as prescribed by the Medical Council of India. Clinical demonstrations and case presentations are always done in small groups to reach out to every last student. In addition seminars, symposia and integrated teaching are conducted weekly. The students are exposed to operative procedures performed in the theatre by the use of modern Audio-Visual telecast system from the operating table. This facility allows a two-way interaction between the operating team and the students to put the matter into perspective. These are complemented with periodic tests in both theory and clinics as well as a model examination in preparation for the University examinations.

Postgraduate training

The Institute has been accepting students as a part of the MS post-graduation programme since 2007. Four students are undergoing training in each of the first two batches and the recent batch consists of five students. Teaching programme for the month is planned in advance and are conducted in the afternoons. It includes lectures, seminars, journal club and clinicals. All the postgraduates have to present the aforementioned and their performance assessed, through a prescribed assessment format by the faculty. The first batch of postgraduate students have appeared for the University examinations in March 2010 and we have had about 7 batches have passed out of the course

SEMINAR ROOM AND COMPUTERS

State - of - the - art air-conditioned seminar room with seating capacity of 150 and 4 seminar rooms as demo halls are available in the department with an LCD projection and AV aids the students fathom the

nuances of the subject. The department is also computerized for official as well as academic work.

DEPARTMENTAL LIBRARY AND MUSEUM

The library is well equipped with over 150 books in General Surgery and allied specialties. It remains up -to-date with all recently published books. It is readily accessible by the faculty and students alike as it is situated in the heart of the department.

BEST PRACTICES

The department strives its best to uphold the cause of education and training. To further this cause, it engages in certain best practices such as…

- Small group teaching and bed side clinics
- Integrated teaching for UG students.
- UG symposium every week
- Audio visual presentations.
- e-Learning.
- Live telecast of operative procedures.
- **Problem oriented symposia** for UGs to promote self learning under guidance.
- **Videos** for Operative Surgery teaching.
- **Modular teaching** for UGs with integrated (vertical & horizontal) T/L activities.
- **Multi information log book** for PGs useful to ensure skill training.
- Post graduates undergo training in **Research methodology workshop and Andragogy**.
- **Multiple source feedback** for Postgraduates.
- **Quarterly appraisal** of Post-Graduates by the department.
- Post Graduates clinics with **all faculties**

- Well supervised PG academic activities and operative training with immediate assessment by the faculty

SPECIAL PRACTICES:

Dedicated tumor clinic Vascular clinic ™ We undertake **sex reassignment surgery** for trans-females. Three of our faculty members have completed **Postgraduate Diploma in Health Professions Education (PGDHPE).** Regular **Clinico-Pathological meet & Clinico –Radiological meet & Tumour board.** Post graduates rotate in all the unit to get exposed to variety of cases & different surgeons

VISION FOR THE FUTURE

Prize exam for Surgery Post Graduates. Certificate course in Diagnostic & Therapeutic Endoscopy. Advanced centre for Sex Reassignment Surgery Regular Breast Cancer Screening Centre. Surgical Oncology referral centre. ™ Advanced Laparoscopic training centre.

CME AND CONFERENCES ORGANISED:

CME in Vascular Surgery held on 31 July 2010

Department of General Surgery in collaboration with the department of CTVS, organized a CME on "Vascular surgery" on the 31st of July 2010 at Mahatma Gandhi Medical College & Research Institute, Pondicherry. The topics for the CME were carefully selected by a team of experts including **Prof. D.R. Gunasekaran, Prof. S. Robinson Smile, Prof.N.Anathakrishnan, Prof.G.S.Ramachandran, Prof. T.TirouAroul and Prof.G. Muthurangan.** The speakers were experts in their respective field of cardiothoracic & Vascular Surgery. The topics and the profile of speakers were as follows:-

1. Approach to a case of peripheral arterial disease - Dr. G. Muthurangan, Prof & HOD of CTVS, MGMC & RI.

2. Upper limb ischaemia - Dr. S. R. Subramaniam, Consultant Vascular Surgeon, Vijaya Hospital, Chennai.

3. Indications, techniques and outcome of surgery for peripheral arterial disease - Dr. M. Rajkumar, Prof & HOD of Vascular Surgery, Stanley Medical College, Chennai.

4. DVT & Pulmonary embolism, Current concepts in prevention, diagnosis and management - Dr. Vidyasagaran, Prof. & HOD of Vascular Surgery, MMC, Chennai

5. Pathophysiology and management of venous ulcer - Dr. K.S.Vijayaraghavan, Vascular Surgeon, KS Hospital, Chennai.

6. Quiz.

7. Aortic Aneurysms - Dr. C. S. Vijayashankar, Chief consultant, Cardiothoracic Surgery, Apollo Hospital, Chennai.

8. Endovascular interventions - Dr. N. Sekar, Consultant Vascular Surgeon, Apollo Hospital, Chennai.

URGENCES CHIRURGICALES 2013

This was organised to honour the academic achivements of Prof.Robinson Smile and the unique of the program was that all the speakers were his students There were 450 delegates for the program

1. Head Injury – Pearls in the Management – Dr.K.Gopalakrishanan, Asst. prof, Dept. of Neurosurgery, JIPMER, Pondicherry

2. Evaluation of Traumatised Abdomen, Dr.Nanda Kishore Marjou, Assoc. Prof, JIPMER, Pondicherry

3. Acute Necrotising Pancreatitis – Dos and Donts - Dr.G.Srikanth, Global Hospitals, Bangalore

4. Oncosurgical Emergencies – Dr.Ranganath, Consultant Surgical Oncologist, Yashoda Hospitals, Hyderabad

5. Acute Limb Ischemia – Prof.N.Sekar, Vascular Surgeon, Apollo Hospitals, Chennai

6. Endocrine Crisis in Surgical Practice, Dr.RanjithSukumar, MES Medical College, Perinthalmanna, Kerala

7. Acute Pediatric Scrotum, Dr.G.Krishnakumar, Asst. Professor, Dept. of Pediatric Surgery, JIPMER, Pondicherry.

MIDASICON 2015 The Annual MIDTERM Conference of ASI Tamilnadu and Pondicherry Chapter was conducted for 2 days in MGMCRI and there were about 300 delegates who took part in it There were didactic lectures and panel discussion on the first day and the second day was followed by live workshop with operative procedures.

March 7, 2015 — PROGRAM SCHEDULE

0830 – 0900	**REGISTRATION & BREAKFAST**	
0900 - 0920	Management of Cutaneous Melanoma	Dr. Rajan.K.V MS.,FRCS., *Assoc. Professor, Dept. of Surgery, MGMC & RI*
0920 - 0940	Soft Tissue Sarcoma - Revisited	Dr. Ramesh .M MS.,M.Ch (Onco) *Assoc. Professor, Dept. of Surgical Oncology, Madurai*
0940 – 1000	Current Evidence in Management of Carcinoma Breast	Dr. Selvi Radhakrishna MS.,FRCS., *Consultant Oncoplastic Breast Surgeon, Chennai*
1000 – 1030	**INAUGURATION**	
1030 – 1045	**TEA**	
1045 – 1105	Standard of Care in the Management of Well Differentiated Thyroid Cancer	*Dr. Sai Krishna Vittal* MS.,DNB.,FRCS.,FICS.,FAIS *Surgical Endocrinologist, Chennai Govening Council Member, TN & P Sate Branch*
1105 - 1125	Secondaries Neck with Unknown Primary	Dr. Balaji R MS., M.Ch (Onco) *Surgical Oncologist, Apollo Hospitals, Chennai*
1125 – 1145	Management of Gastric Cancer - East Vs West	Dr. Karthikeyan .S MS.,M.Ch (Surgical GE) *Senior Asst.Prof.,Dept. of Surgical Gastro Madurai Medical Collage, Madurai*
1145 – 1205	Current Concept in Periampullary Carcinoma	Dr. Biju Pottakat MS.,M.Ch (Surgical GE) *Addl. Professor & Head, Dept. of Surgical GE, JIPMER*
1205 – 1310	**PANEL DISCUSSION** Colorectal Carcinoma	MODERATOR: Dr.Vikram Kate, Professor, Dept. of Surgical GE, JIPMER PANELIST: Dr.Balasubramaniam.M. Surgical Oncologist,MGMC & RI Dr.Biswajith .D Asst. Professor, Dept. of Medical Onco ,JIPMER
1310 – 1400	**LUNCH**	
1400 – 1600	CLINICAL CASE DISCUSSIONS	Well experienced Senior post graduate examiners
1600 – 1700	SURGI QUIZ (for Surgical Residents)	Dr. Eashwaramoorthy. S MS., *Treasurer, ASI TN & P State Chapter*

1830 **BANQUET - LE PONDY BEACH RESORT**

March 8, 2015

0800 – 0830 **BREAKFAST**

0830 - 1300 LIVE OPERATIVE WORKSHOP

Open and Lap Cases

Poster Competition 10.00 am Onwards

Mastectomy Radical Neck Dissection Parotidectomy	TEP/TAPP Lap Colectomy Lap Fundoplication

FACULTY

Dr. Robinson Smile *Professor Emeritus, Dept. of Surgery MGMC & RI, Pudhucherry* Dr. Selvi Radhakrishna *Consultant Oncoplastic Breast Surgeon, Chennai* Dr. Balasubramaniam. M *Surgical Oncologist, MGMC & RI, Puducherry*	Dr. Vaitheeswaran .V *Head, Minimal Access Surgery ,Global Hospitals, Chennai* Dr. Rajkumar Palaniappan *Senior Consultant MAS, Director, Bariatric Surgery, Apollo Hospitals, Chennai*

1300 **LUNCH**

AMASI – FMAS2016

FELLOWSHIP IN MINIMAL ACCESS SURGERY EXAMINATION 201

Was conducted along with Association of Minimal Access Surgeons of India and there were Didatic Lectures and Examinations and about 200 candidates took this exam

TIME	TOPIC	SPEAKER
08.30 – 09.00 am	Setup of Laparoscopic Surgery Unit, Equipment, Instrumentation & Endovision Surgery	Dr. Chandralathan
09.00 – 09.30 am	Sterilization and Maintenance of Equipment	Dr. Suresh Chandra Hari, Hyderabad
09.30 – 10.00 am	Electrocautery and Newer Energy Sources in Laparoscopy	Dr. Rajapandian GEM Hospital, Coimbatore
10.00 – 10.30 am	Troubleshooting in Laparoscopy	DrKalaiarasu JIPMER
10.30 – 11.00 am	Tea Break	
11.00 – 11.30 am	Anesthesia for Laparoscopy	Prof. Sivashanmugam,
11.30 – 12.00 am	Techniques of Creation and Complications of Pneumoperitoneum	Dr. Mohan
12.00 – 12.30 pm	Art of Laparoscopic Suturing and Knotting	Dr.Parthasarthi, GEM Hospital, Coimbatore

12.30 – 01.00 pm	How to avoid complications in Laparoscopy	DrSelvarajanKumbakonam
01.00 – 02.00 pm	Lunch	
02.00 – 02.30 pm	Diagnostic Laparoscopy	Dr.Duraimurugan
02.30 – 03.00 pm	Video Documentation	Dr.Parthasarthi, GEM Hospital, Coimbatore
03.00 – 03.30 pm	Laparoscopic Appendicectomy	
03.30 – 04.00 pm	Tea Break	
04.00 – 04.30 pm	Laparoscopic Cholecystectomy	Dr. Suresh Chandra Hari, Hyderabad
04.30 – 05.00 pm	Laparoscopic Cholecystectomy in Difficult Situation	Prof. T.A.Chandralathan, Maruthi Gastro Care, Cuddalore
05.00 – 05.30 pm	Complications During Lap. Cholecystectomy- How to Manage	Prof. BijuPottakat, JIPMER, Puducherry
08.30 – 09.00 am	Laparoscopic Inguinal Hernia Anatomy	Dr.Parthasarthi, GEM Hospital, Coimbatore
09.00 – 09.30 am	TEP- Procedure for Inguinal Hernia	Dr. C. Palanivelu GEM Hospital, Coimbatore

09.30 – 10.00 am	TAAP- Procedure for Inguinal Hernia	Dr. P.Senthilnathan GEM Hospital, Coimbatore
10.00 – 10.30 am	Incisional / Ventral Hernia Repair	Dr. Suresh Chandra Hari, Hyderabad
10.30 – 11.00 am	Tea Break	
11.00 – 11.30 pm	Esophageal Hiatal Anatomy	Dr. Rajapandian GEM Hospital, Coimbatore
11.30 – 12.00 pm	Laparoscopic Management of GERD	
12.00 – 12.30 pm	Laparoscopic Management of Achalasia Cardia	Dr.RameshArdhanari,Meenakshi Mission Hospital, Madurai
12.30 – 01.00 pm	TV GJ	Dr.Parthasarthi, GEM Hospital, Coimbatore
01.00 – 02.00 pm	Lunch	
02.00 – 02.30 pm	Laparoscopic Management in acute abdomen and trauma	Dr.RameshArdhanari,Meenakshi Mission Hospital, Madurai
02.30 – 03.00 pm	Laparoscopic Bariatric Surgery	Dr.DeepakSubramaniam, Chennai
03.00 – 03.30 pm	Laparoscopic Appendicectomy	

03.30 – 04.00 pm	Tea Break	
04.00 – 04.30 pm	Laparoscopic Cholecystectomy	Dr. Suresh Chandra Hari, Hyderabad
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02.30 – 03.00 pm	Laparoscopic Bariatric Surgery	Dr.DeepakSubramaniam, Chennai
03.00 – 03.30 pm	Paediatric laparoscopic surgery	Local Faculty
03.30 – 04.00 pm	Tea Break	
04.00 – 04.30 pm	Laparoscopic Colonic Cancers	Dr. GovindarajTrichy
04.30 – 05.00 pm	Laparoscopic Rectal Tumor	Dr. Rajapandian GEM Hospital, Coimbatore
05.00 – 05.30 pm	Laparoscopic Management of Prolapse Rectum	Dr.RameshArdhanari,Meenakshi Mission Hospital, Madurai

DAY II – 12 FEB 2016 – PARALELL AND SEPARATE SESSION FOR GYNAECOLOGIST			
08.30 – 09.00 am	Pelvic anatomy	MGMC RI Local	
09.00 – 09.30 am	Surgical instruments for gynecologic surgery	MGMC RI Local	
09.30 – 10.00 am	Overview of preoperative evaluation and preparation for gynecologic surgery	MGMC RI Local	
10.00 – 10.30 am	Tubal Ligation	JIPMER Local	
10.30 – 11.00 am	Tea Break		
11.00 – 11.30 pm	Ovarian cyst excision	MGMC Local	
11.30 – 12.00 pm	PCOD	Cuddalore Local	
12.00 – 12.30 pm	Ectopic Pregnancy	Dr Devi GEM Hospital, Coimbatore	
12.30 – 01.00 pm	Laparoscopic Hysterectomy	DrKavitha Yogini GEM Hospital, Coimbatore	

01.0 – 02.00 pm	Lunch		
02.00 – 02.30 pm	Laparoscopic myomectomy	Dr Devi GEM Hospital, Coimbatore	
02.30 – 03.00 pm	Laparoscopic Adhesiolysis	Dr Dash Local	
03.00 – 03.30 pm	Laparoscopic surgery for Prolapse	DrKavitha Yogini GEM Hospital, Coimbatore	
03.30 – 04.00 pm	Tea Break		
04.00 – 04.30 pm	Radical Hysterectomy	DrC.Palanivelu GEM Hospital, Coimbatore	
04.30 – 05.00 pm	Hysteroscopic Procedure	DrGopinath SRM Vadapalani	

DAY III – 13 FEB 2016 ADVANCED LAPAROSCOPY FOR SURGEONS		
08.30 – 09.00 am	Laparoscopic Management of Pseudocyst Pancreas	Dr.ManashSahoo, Cuttack
09.00 – 09.30 am	Laparoscopic management of Hydatid liver cysts	Dr.Senthilnathan, GEM Hospital, Coimbatore
09.30 – 10.00 am	laparoscopic splenectomy	Dr. Suresh Chandra Hari, Hyderabad
	CBD Stones laparoscopic Management	Dr.ManashSahoo, Cuttack
10.00 – 10.30 am	CBD Stones Endoscopic Management	Dr.Thomas Alexander
10.30 – 12.30 pm	Examination	
1.00 pm	Lunch	

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EVENT COORDINATION	**Dr. ChetanAnand**	**Dr. Gowtham** **Dr. Prithvee**
SOUVENIR	**Dr.K.V.Rajan**	**Dr. Surya Ram** **Dr. Sadan**
ADVISORY COMMITTEE	**Prof. S. Robinson Smile** **Prof. M. Palaniappan** **Prof. S. Srinivasan**	
SECRETARIAL ASSISTANT	**Mrs. S.Karunkuzhali**	

PROGRAMME SCHEDULE

TIME	TOPIC	SPEAKER	CHAIRPERSON
9.00	RECENT TRENDS IN TREATMENT OF CARCINOMA OESOPHAGUS	**Dr.KALAYARASAN**, MS., DNB., M.Ch (Surgical Gastro) Asst. Professor, Dept. of Surgical Gastroenterology, JIPMER.	**Dr.P.NARESH KUMAR** MS., Head, Dept. of Surgery, Sri Venkateshwaraa Medical College & Research Centre, Pondicherry **Dr.SREENATH G S**, MS., Associate Professor, JIPMER, Pondicherry.
9.30	CORROSIVE INJURIES OF OESOPHAGUS	**Dr.G.PARTHASARATHY** MS., M.Ch (Surgical Gastro) FIAGES., Fellowship in Liver Transplantation Consultant Surgical Gastroeneterologist, Yashoda Hospitals, Hyderabad.	**Dr.NANDAKISHORE MARJOU, MS., FRCS.,** Associate Professor, JIPMER, Pondicherry
10.00	UPPER GI SURGICAL PROBLEMS IN PEDIATRICS	**Dr.P.BALAMOURGANE**, MS., MNAMS., DNB (Surgery).,M.Ch., (Paed Surgery), DNB (Paed Surgery), Assoc. Professor, Dept. of Pediatric Surgery, SRMC, Chennai	**Prof.V.N.MAHALAXMI**, MS., FRCS.,M.Ch(Paed Surgery) Vice Principal (Curriculum), MGMC & RI Head, Paediatric Surgery, MGMC &RI **Dr.G.KRISHNAKUMAR**, MS., M.Ch., (Paed Surgery) Asst. Professor, Dept. of Paediatric Surgery, JIPMER.
11.30	TRANSLATIONAL GASTROINTESTINAL RESEARCH "BENCHSIDE TO BEDSIDE" - A PIONEERING EXPERIENCE OF TWO DECADES	**Dr.Prof.VIKRAM KATE**, MBBS, MS, FRCS (Eng.), FRCS (Ed.), FRCS (Glasg.), Ph.D (GE), MAMS, FIMSA, MASCRS, FACS, FACG, MFSTEd., Professor of Surgery & Gastrointestinal Surgery, JIPMER, Puducherry	**Dr.SATISH NALLAM** MS., FMAS., Executive Member, ASI Tamilnadu and Pondicherry State Chapter Chairman, Pondicherry City Chapter of Tamilnadu and Pondicherry ASI **Dr.ASHLEY SOLOMON**, MS., Assoc. Professor, Dept. of Surgery, IGMC & RI, Pondicherry
12.00	RECENT TRENDS IN MANAGEMENT OF LIVER TRAUMA	**Dr.KUMARAKRISHNAN** MBBS, MS, DNB., MCH, FMAS, FRCS (UK)., CCT (UK).., Senior Consultant, Surgical Gastroenterology, Apollo Hospitals , Chennai	**Dr.SIMON DASAIAH**, MS., Head, Dept of Surgery, IGMC & RI, Pondicherry. **Dr.G.AMBUJAM** MS., FICS., FACS Head, Dept of Surgery, Vinayaka Missions Medical College, Karaikal.
12.30	LIVER TRANSPLANT IN ACUTE LIVER FAILURE - CURRENT STATUS	**Dr.M.P.SENTHILKUMAR**, MS., FRCS (Edin.,) FRCS (Intercollegiate, UK) Addl. Professor, Institute of Liver and Biliary Sciences, New Delhi.	**Prof.B.KANCHANA** MS., FICS Head, Dept. of Surgery, Aarupadai Veedu Medical College and Hospitals,Pondicherry **Prof.C.SUBRAMANIAN** MS., FICS., Professor of Surgery, Rajah Muthiah Medical College and Hospitals, Chidambaram
13.00	MANAGEMENT OF CHRONIC PANCREATITIS	**Dr.S.SEVVEL**, MS., DNB., (Surgery) Senior Specialist, Dept. of Surgery / Surgical Gastroenterology, Indira Gandhi Govt.General Hospital & Post Graduate Institute, Pondicherry.	**Prof. J.KABALIMURTHY**, MS., FMAS., Head, Dept. of Surgery, RMMCH, Chidambaram **Dr.D.VENKATESWARLU**, MS., Assoc. Professor, Dept. of Surgery, Aarupadai Veedu Medical College & Hospitals, Pondicherry.
14.00	QUIZ	**Dr.MANOJ KARTHIK S**, MS., FMAS., Assoc. Professor, Dept. of Surgery, MGMCRI, Puducherry	

MESSAGES

MESSAGE FROM THE HONORABLE CHAIRMAN

Shri M.K. RAJAGOPALAN,

Chairman, SBECT

I am indeed delighted to note that our Department of Surgery of Mahatma Gandhi Medical College & Research Institute (MGMCRI) is hosting the Surgery Conference on 24th September 2016.

It is a matter of pride for Shri Balaji Vidyapeeth to host this conference because and they have organised this CME with focus on Upper GI ad Hepatobiliary surgeries and answers the queries for the young surgeons and residents. The theme of the Conference and Innovations in Upper GI which is also a critical factors for our departments to produce surgeons and health professionals of high caliber, to face the challenges of future.

Secondly, this conference is led by the key academic leaders from all over Indian and a galaxy of experts gathered from various centres of excellence in India, with whom we can mutually share our experience.

I wish the Conference every success and hope that it will serve as an important mile stone in our journey towards excellence.

MESSAGE FROM CHANCELLOR

PROF. RAJARAM PAGADALA
Chancellor, SBVU

The 'Innovative and Best Practices in Gastrointestinal Surgery' that will be discussed at the National conference, I am sure, will be practical in approach and will also be an educational goldmine for the younger professionals to learn from. The recent advances in the field of gastrointestinal and hepatology is gratifying. It is indeed infusing enthusiasm among the specialists to research for innovative methods to manage the ever increasing morbidity as a result of systemic diseases.

It is common to hear complaints of heartburn and regurgitation. Most of the costly investigations from endoscopy to pill- camera can be avoided if only ancient simple examination of tongue is carried out. It is observed that indiscriminate use of drugs is affecting the health and wellbeing of an individual. However, it is well appreciated that the development of science in the field of gastroenterology has led to saving of lives by way of liver transplants, early detection of malignancies etc.

I also applaud the organizers for dedicating this academic feast to honor the services rendered by Prof. N. Ananthkrishnan. During the past three decades, I have known him as 'AK' as a humane surgeon, serving the suffering humanity. I have watched him surrounded by academically thirsty student community looking towards Prof. Ananthkrishnan for their academic quest. He continues to serve Sri Balaji Vidyapeeth as Research Dean. His services indeed is a loyalty to serve the academic field. I wish him all the best.

I wish the conference a grand success.

Prof. Rajaram Pagadala

MESSAGE FROM VICE CHANCELLOR

Prof. K.R.SETHURAMAN

VICE CHANCELLOR, SBVU

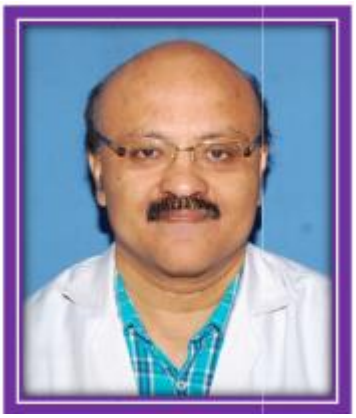
I am delighted that the past and present associates and former students of Prof.Ananthakrishanan.N and Prof. Robinson Smiles are Collaborating to organize "Conférence Nationalesur Gastrointestinal Supérieur et Chirurgie Hépatobiliaire" on Sep 24th at MGMCRI.

Gastroenterology is a rapidly evolving field in surgery and in Medicine. It is appropriate and timely to hold an update to critically look at the recent developments and choose the most appropriate options in our context.

I wish the conference and all the delegates all success they truly deserve.

MESSAGE FROM REGISTRAR

Prof.A.R. SRINIVASAN
REGISTRAR
SRI BALAJI VIDYAPEETH



It gives me immense pleasure to congratulate the organizing team of the "Conference Nationale sur Gastrointestinal Superieur et Chirurgie Hepatobiliare" on this wonderful academic endeavour.

It is to be noted that the topics to be deliberated upon by the eminent and erudite speakers have been chosen with great care and keeping in view the nexus between basic and applied clinical sciences. Translational medicine has been assuming a lot of relevance in recent years and it is in the fitness of things that it finds its due place in the day long academic feast.

Sri BalajiVidyapeeth takes great pride in inviting the learned speakers and the delegates to this national conference and we request you to partake of our hospitality.

Wishing the Conference stupendous success.

MESSAGE FROM DEAN

Prof. M. RAVISHANKAR

Dean, Faculty of Medicine, MGMC&RI

I take great pride in appreciating the efforts of the Department of General Surgery for choosing an interesting theme for the CME. I am sure this CME is going to be very useful for budding surgeons and also for practicing surgeons to deliver the best for their patients.

Distinguished speakers who are stalwarts in their respective fields will be delivering the talk.

I would like to congratulate the CME organizers a Grand Success and congratulate them for their best effort

Wishing the endeavor a great success

MESSAGE FROM THE MEDICAL SUPERINTENDENT

Prof. V.NIRMAL COUMARE

MEDICAL SUPERINTENDENT

MGMC&RI

I am happy to note that our Department of Surgery of Mahatma Gandhi Medical College & Research Institute, Pondicherry of Balaji Vidyapeeth is hosting the National Conference

It is my great pleasure to welcome you all to this Upper GI and Hepatobiliary Congress in the beautiful city of Pondicherry. This is the major College educational event of the year and the Department of Surgery of MGMC & RI, Pondicherry have compiled a truly outstanding program for all of us.

The major strength of this Scientific Congress is that it provides an opportunity for every surgeon and Trainee to enjoy life-long learning on a variety of general and specialty interest topics. This is in addition to the usual networking opportunities for the residents provided by the corridors, coffee venues, and the dinners. The program crosses specialty boundaries and explores areas of interest and importance outside surgical specialty.

I wish the Conference every success.

MESSAGE FROM THE VICE PRINCIPAL

Prof. V.N. MAHALAXMI
Vice Prinicpal (Curriculum),
MGMC & RI

Dear friends and colleagues

The Department of Surgery MGMC & RI has always been at the forefront of surgical innovations and cutting edge technologies and medical education. This conference will feature; state of the art keynote lectures by internationally renowned Visiting Professors; themed topics of Upper GI and Hepatobiliary surgery which will underpin the need for collaboration, cooperation and fraternity with local and international Surgeons. Furthermore the panel discussion on portal hypertension would be held to enhance the learning experience of those interested in these sub-specialties.

We are confident that the conference program will provide a wonderful forum for all the delegates to refresh their knowledge base and explore various surgical innovations. The Conference will strive to offer plenty of networking opportunities, providing the young surgeons and the residents with the opportunity to meet and interact with the leading scientists and researchers, friends and colleagues

MESSAGE FROM THE VICE PRINCIPAL

Dr. PARTHA NANDI
Vice Principal,
MGMCRI

The department surgery of MGMCRI had always been doing wonders with the team work of eminent faculty and residents under the aegis of stalwarts in the department. I am glad to be informed about yet another event coming up from the department, the national conference named "Conference Nationalesur Gastrointestinal Superieur et Chirurgie Hepatobiliare". I am sure the Conference will be a grand success with exchange of current knowledge in Gastrointestinal and Hepatobiliary surgery. I wish the organizing team best of luck and all success in this noble endeavor !

Vice Principal (Students)

Prof. CAROUNANIDYUSHA
Dean of Dental Sciences,
Indira Gandhi Institute of Dental Sciences

MESSAGE

All Health professionals, while serving the mankind, have the huge responsibility towards life long learning, in order to be adept at the current best practices in their field. Continued professional development through continued medical education is the key towards sustenance of such expertise.

I am glad to note that the General Surgery, MGMC & RI, has taken cognizance of the information explosion in their field and has stepped forward to convert them into evidence based knowledge.

I wish this endeavor a fruitful and successful outcome, benefitting the participant and students.

Thanking You

Dr. Carounanidy Usha
Principal, Indira Gandhi Institute of Dental Sciences
Dean, Faculty of Dentistry,
Sri Balaji Vidyapeeth
Puducherry

Dr. RENUKA.K,
Dean,
Faculty of Nursing Sciences,
Sri Balaji Vidhyapeeth.

It gives me great pleasure to state that Organizing team of Department of Surgery, MGMCRI for Organizing a National Conference on **"Conference National Gastro Intestinal Superieur at Chirurgie Hepatobiliare"** on 24th September 2016 and release an e-souvenir on the occasion. I wish the organizing team for the success of the conference and the delegates for attending a memorable event in their lifetime.

FROM THE DESK OF ORGANIZING CHAIRMAN

Prof.M.RAMANATHAN
Head, Department of Surgery
MGMC&RI.

Today, Department of Surgery is a unique Department bringing some of the world's most recognized surgeons together to share ideas, create academic relationships and advance the practice of surgery. Unprecedented in scope and depth, this conference is sure to be an excellent learning experience for all involved. Surgeons from all disciplines will find the content of the meeting to be meaningful. The talks, designed to be state of the art, provocative and educational, will be delivered by a prominent national faculty. Sessions will highlight popular surgical subjects such as Upper GI and Hepatobiliary Surgeries. There will also be emphasis on audience participation in a complex patient management cases session.

It would seem only fitting that a conference of this quality should also be held in a truly spectacular venue. MGMCRI is a beautiful campus with plenty to do and experience.

The Department of Surgery has been conducting such conferences since few years like :

2012 – Conference on vascular Surger

2013 – Conference on Emergency Surgery

2014 – Single Theme CME

2015 – MIDASICON 2015 - the midterm conference of Association of Surgeons of India of Tamilnadu and Pondicherry State Chapter

March 2016 – Fellowship of Minimal Access Surgery Course and Examinations were conducted for 3 days under the aegis of Association of Minimal Access Surgeons of India and we had about 250 delegates attending it

On behalf of the entire faculty, I welcome everyone to join the conference and participate in this truly wonderful experience.

On behalf of the organizing committee, it is our pleasure to welcome you to this conference.

We are proud to bring you a great synergy of expertise from national and international keynote speakers and panel discussion. The theme this year will be "Mastery of Surgery", covering the latest developments in upper GI and Hepatobobiliary surgery

Technological advances and the ever-increasing understanding of Upper GI problems make the study one of the most rapidly evolving areas of modern medicine. We have witnessed the continued revolution and scientific advances in technology development in the field of medicine and surgery for better health care. These developments will be featured in the present event, addressing the current and future trends and challenges in scientific research and technology development.

The scientific programs will deal with a variety of topics for surgical oncology, upper GI and Hepatobiliary and will bring everyone together from all India to discuss topics that are of great interest and beneficial to all. I look forward to your participation in the sessions and encourage you to take advantage of the wealth of knowledge offered by our speakers and I am sure you will find the scientific programme interesting and you will have a most productive learning experience.

With regards
The Organising Team
Department of Surgery
MGMCRI

FROM THE DESK OF FACULTY

RECENT TRENDS IN TREATMENT OF CARCINOMA OESOPHAGUS

Dr. KALAIARASAN MS., DNB., DNB.,M.Ch.,
(Surgical Gastroenterology)
Asst. Professor, Dept. of Surgical Gastroenterology
JIPMER, Puducherry.

kalayarasanraja@yahoo.com

INTRODUCTION

Esophageal cancer is currently the 8th most common malignancy worldwide and is the 6th leading cause of cancer death. While adenocarcinoma (AC) is the predominant histologic subtype in the western world squamous cell carcinoma (SCC) accounts for the bulk of disease burden and mortality worldwide. India, China and central Asian countries have high incidence of esophageal cancer. Treatment strategies for esophageal malignancies can be broadly divided into locoregional treatment (surgery and radiotherapy) and systemic therapy (chemotherapy).Surgery continues to play an important role in achieving locoregional control in patients with esophageal carcinoma and offers the best chance for cure in localized and locally advanceddisease. However, despite improvements in surgical technique the majority of patients succumb to distant metastases after curative intent resection. This failure highlights the importance of multimodal therapy in the management of patients with a newly diagnosed esophageal malignancy. This brief review will focus on recent trends in the management of esophageal cancer.

WHAT IS ESOPHAGEAL CANCER?

Esophagus extends from cricopharyngeal sphincter to gastroesophageal junction. Malignant tumors occurring in this segment are classified into esophageal and esophagogastric junction tumors. Based on clinicopathological features and pattern of lymph node metastasis esophagogastric junction tumors are further classified into three types by Siewert's classification. For the purpose of uniform staging in the seventh edition of AJCC classification tumor with its epicentre in the esophagus or proximal 5cm of esophagus are classified as esophageal cancer. This definition practically classify all esophagogastric junction tumors as esophageal tumors. However, this definition was not widely accepted and for treatment decisions Siewert's classification was widely used. Hence, in the eight edition of AJCC classification (will be published in Dec 2016) esophageal cancer is defined as tumors with its epicentre in the esophagus or proximal 2cm of stomach.

PREOPERATIVE INVESTIGATIONS

Upper gastrointestinal endoscopy is the diagnostic investigation of choice for esophageal cancer. It permits effective visualization of theesophagus along its entire length as well as the esophagogastricjunction via retroflexion of the endoscope within the stomach. In addition, it permits tissue biopsy for pathologicdiagnosis. Staging investigations include endoscopic ultrasound (EUS), routineCT scan of the chest, abdomen and pelvis, and positronemission tomography (PET) in selected patients.Clinical T staging is best achieved by EUS. It provides themost detailed description of the depth of tumor involvement of the esophagus. The overall sensitivity and specificity of this modality in the determination of T stagehave been reported as 81.6 and 99.4 % for T1 lesions, 81.4 and96.3 % for T2 lesions, 91.4 and 94.4 % for T3 lesions, and 92.4and 97.4 % for T4 lesions, respectively.

Overall EUS is leastreliable in T2 lesions, with 10 % of tumors understaged and 17 % overstaged, respectively.The routine use of EUS

inpatients with significant dysphagia is debatable. Not only isEUS assessment beyond the tumor frequently not possiblewithout dilation (and not-insignificant risk of perforation) dueto the larger caliber endoscope but also EUS offers little to thetreatment decision in these patients who are almost universally at least T3 and require multimodality therapy. In the current era EUS is predominantly used inearly stage cancer to determine whether the patient is a candidate for endoscopic therapy.CT neck, thorax and abdomen is the most commonly performed staging investigationas it provides a rapid assessment of the operability ofdisease. While it provides limited information regarding Tstage, visualization of fat planes between the esophagus and adjacent structures excludes T4 disease. CT scan does provide valuable information regarding N stage and demonstratesa sensitivity of 37–66 % in the detection of distant metastasis. FDG-PET is more sensitive than CT scan for detection of distant metastasis. Potential disadvantages with PET scan are false positive uptake resulting in invasive investigations and low avidity (25%) in patients with signet ring histology. Currently PET scan is recommended only for selected patients with locally advanced esophageal cancer with high risk of distant metastasis and those with poor performance status in whom detection of metastatic disease will preclude surgery.

TREATMENT

Very early tumor

It includes patients with T1 a disease where the tumor is intramucosal in nature. As long as muscularis mucosa is breached the incidence of lymph node metastasis is negligible. In these patients organ sparing surgery in the form of endoscopic resection is the preferred treatment. The two main techniques for endoscopic resection include Endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD). EMR istechnically more facile; however, one can only resect up to0.5–1 cm at one time. This results in piecemeal resection oflarger lesions and a local recurrence rate of up to 30 %.ESDallows en bloc resection of any size esophageal lesion but istechnically more demanding and requires

specialized equipmentpassed through the operating channel of a standardgastroscope.

EMR and ESD also facilitate accurate T staging and if there is evidence of T1b disease on final histopathological examination either radical esophagectomy or chemoradiotherapy should be added.

Early tumor

It includes patients with T1b and clinically node negative disease. This is the only group of patients in whom radical esophagectomy is recommended as a sole modality of therapy.

Locally advanced tumor

It includes patients with T2 and above tumor and all node positive tumor. In these group of patients neoadjuvant therapy followed by surgery is the current standard of care as esophagectomy alone is associated with high incidence of recurrent disease especially distant metastasis.

Neoadjuvant therapy

Neoadjuvant therapy can be neoadjuvant chemo radiotherapy or neoadjuvant chemotherapy. The landmark CROSS (41.8 gy RT with carboplatin and paclitaxel) trial published in 2012 comparing chemo radiotherapy with surgery alone revealed statistically significant decrease in local recurrence rate in patients who received neoadjuvant chemo radiotherapy with a 5 year survival rate close to 50%. Approximately 50% of patients with squamous cell carcinoma had complete pathological response. A recent meta-analysis of studies on neoadjuvant chemo radiotherapy reported higher incidence of complications especially in patients with squamous cell carcinoma. Hence, neoadjuvant chemotherapy was proposed as an alternative neoadjuvant therapy. A recent RCT comparing neoadjuvant chemotherapy with neoadjuvant chemoradiotherapy for cancer of the oesophagus reported the addition of radiotherapy to neoadjuvant chemotherapy results in higher histological complete response rate, higher R0 resection rate, and a lower frequency of lymph-node metastases, without

significantly affecting survival. Currently neoadjuvant chemoradiotherapy with CROSS protocol is the preferred neoadjuvant regimen for the treatment of patients with cancer esophagus.

Extent of lymphadenectomy

The extent of lymphadenectomy performed during oesophagectomy is highly variable, ranging from minimalto radical. Three distinct oesophageal lymphatic regions have been described. The abdominal field represents thelymph node areas below the diaphragm, from the crura tothe celiac axis. The mediastinal field refers to all nodal tissueassociated with the oesophagus in the chest, including the thoracicduct, subcarinal, aortopulmonary window, main stembronchial nodes, and lymph nodes along both recurrent laryngealnerves. The cervical field encompasses the deep externallymph nodes along the lateral sides of the carotid arteries, along the internal jugular and supraclavicular nodes, andalong the recurrent nerves and the paratracheal nodes. Of the three, however, it is the latter group that has received thegreatest attention due to the relatively high frequency of metastasesencountered in this area, reported to be as high as 36%. A radical oesophagectomy, therefore, refersto a procedure by which the oesophagus and its enveloping tissuesare removed as a single specimen (en bloc), combinedwith either two-field (abdominal and mediastinal), infracarinaltwofield (which omits both cervical lymph nodes and a formal superior mediastinal nodal dissection) or three-field(abdominal, mediastinal, or cervical) lymphadenectomy. In the current era of neoadjuvant therapy two field lymphadenectomy including lymph nodes along recurrent laryngeal nerve is the standard of care.

Open versus minimally invasive esophagectomy

Various techniques have been established to resect the esophagusand reconstruct the alimentary tract. Traditionally, transhiataltechniques had been used involving a laparotomy to mobilize thestomach, which is used as a new conduit, and a neck incision to fashion an anastomosis. However, this technique is now less commonly usedin favor of transthoracic techniques. The two commonly used transthoracic approaches are Ivor-Lewis Esophagectomy which is a two-phase procedure (abdominal followed by

thoracic approach) and McKeowon's esophagectomy (thoracotomy followed by laparotomy and cervical anastomosis). The most important complications after esophagectomy is pulmonary complications secondary to thoracotomy and single lung ventilation. Minimally invasive esophagectomy using thoracoscopy and laparoscopy was introduced to minimize complications. However it oncological efficacy was questioned. The recently published TIME trial comparing open versus minimally invasive esophagectomy suggests equivalent lymph node retrieval rates between two groups with less incidence of pulmonary complications in minimally invasive esophagectomy group.

Future of surgery for esophageal cancer

The surgery for esophageal cancer will become bipolarized in the future. One strand will evolve as "salvage surgery" for residual or recurrent tumors after definitive chemoradiotherapy. It is now well known that there are some esophageal cancers that can be cured easily with surgery, and that can also be cured by chemoradiotherapy. Definitive chemoradiotherapy will become more prevalent for the treatment of esophageal cancer at the early and intermediate stages, for which surgery is commonly indicated at present.

Surgeons have to face the challenge of performing salvage surgery for residual or recurrent tumors which non-surgical therapies have failed to cure. The other strand will evolve as less invasive surgery—"adjuvant surgery"—for cancers at the early stage, in which micro-metastasis can be cured by non-surgical therapies, such as chemotherapy, radiotherapy, moleculartargeting therapy and others. This therapy is already successful for breast cancers. Esophageal cancers will be more commonly detected at very small sizes and at earlier stages as the imaging modalities improve and as screening programs become more common. Surgery will become more and more limited, until ultimately, endoscopic treatment will take over or mostly replace surgery, because it helps topreserve the patients' physical function and maintain a good quality of surgery.

CORROSIVE INJURIES OF OESOPHAGUS

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INTRODUCTION

Corrosive injuries to the esophagus are not uncommon in India. These pose a major challenge in management, both in the acute and chronic phase of the injury. In India, acids are the main cause of corrosive injury compared to the west, where lye is more common.

The most common acids implicated in this are bathroom cleaning acid (Hydrochloric acid) and Goldsmith's solvent.

Although it is said that acids spare the esophagus and injure the stomach, this is not a rule as has been seen over the years. This article gives a brief overview of the approach to a patient with corrosive injury to the esophagus .

Acute corrosive esophageal injury

Patients with acute corrosive injury present with severe chest or abdominal pain, gastrointestinal bleed, aspiration, hypotension, mediastinitis or peritonitis. The management of these patients starts with securing airway, breathing and circulation .Basic tenets like avoiding a gastric lavage, avoiding use of neutralizing chemicals or steroids are worth reiterating. Severe esophageal injuries causing perforation need emergent surgical intervention with wide pleural and mediastinal drainage, cervical esophagostomy along with a feeding jejunostomy.

For less severe injuries an upper gastrointestinal endoscopy is done within the first 24 hours when the risk of perforation is low. If not it is best to do an endoscopy after a week.

Chronic Corrosive esophageal injury

Corrosive injury forms the major cause of benign esophageal stricture in our country.

Management of esophageal strictures due to corrosive injury is complicated by the poor nutritional status of the patients, concomitant upper airway injuries, pulmonary complications due to aspiration and psychosocial issues.

Evaluation

The evaluation of a patient with chronic corrosive injury includes an upper GI endoscopy, which in many cases may be incomplete because of a stricture. A direct laryngoscopy to assess the extent of laryngopharyngeal injury is useful in many cases. Also documentation of vocal cord mobility preoperatively is advised both for medical and medico legal reasons.

Barium swallow is an indispensible study to evaluate the number, extent and severity of the thoracic esophageal stricture. Pulmonary and nutritional evaluation is mandatory for appropriate optimisation prior to major surgical interventions.

Before embarking on the definitive management of the esophageal strictures the most important step is to ensure a good feeding port. This is achieved by a feeding jejunostomy done at the earliest opportunity. A feeding gastrostomy is best avoided as the stomach remains an option for being an esophageal substitute at a late stage.Also there is a possibility of late onset gastric strictures following corrosive injury.

The management of esophageal strictures is in two parts .The pharyngocervical esophageal strictures have to be managed differently from the thoracoabdominal ones.

Management of Pharyngocervical esophageal strictures

The pharyngocervical part of the esophagus plays a crucial part in deglutative mechanisms and allowing for a safe swallowing without aspiration. An attempt to bypass this segment of the esophagus and perform a high pharyngocolic anastomosis is fraught with uncoordinated swallowing with very high risk of aspiration in the post operative period. Hence it is essential that the pharyngoesophageal segment is addressed first and all future anastomosis of the esophageal substitute be done to this segment to ensure safe deglutition without aspiration.

The management options for the pharyngoesophageal strictures include both surgical and non surgical methods.

Non surgical options include dilatation with Savary Gilliard (SG) dilators or through the scope pneumatic balloon dilators. These are useful in those patients who have a short stricture with a patent lumen in the downstream cervical esophagus to allow for the passage of a guidewire. Alternatively, a right sided esophagostomy can be made and it can be used to pass the guidewire to facilitate the passage of an SG dilator.

Patients with long tight strictures unsuitable for dilatation and those who restricture rapidly after dilatation need surgical reconstruction of the stricture. The most frequently used options for reconstruction of the strictured pharyngocervical segment are the use of myocutaneous flaps using the pectoralis major or the sternocleidomastoid, In rare cases a free jejunal patch transfer may also be employed.

In patients where the entire pharyngeal inlet is scarred beyond repair the only option left is a total laryngectomy with a permanent tracheostomy and a pharyngocolic anastomosis.

Once the patency of the pharyngoesophageal segment is established one goes to manage the thoracoabdominal esophageal stricture.

Management of Thoracic esophageal strictures

The mainstay of therapy for corrosive strictures of the thoracic esophagus is endoscopic dilatation using an SG dilator or a pneumatic balloon device. Approximately one third of patients with thoracic esophageal strictures will require surgery. The indications for surgery in the treatment of thoracic esophageal corrosive strictures are

1. Long undilatable strictures
2. Early and repeated restricturing following dilatation
3. Endoscopic dilatation induced complications like perforation or bleeding
4. Not amenable for endoscopy due to multiple sacculations or false lumen.

Surgical management

Resection vs Bypass

There exists a school of thought which prescribes resection of the strictured esophagus and then to create an esophageal substitute to restore continuity. The basis of advocating resection is to avoid future complications arising from the diseased native esophagus like mucocele, abscess and most importantly malignant transformation.

Resection of an esophagus following corrosive injury is an operation fraught with risks of major complications like bleeding and tracheobronchial injury because of dense periesophageal fibrous reaction and loss of planes. A transhiatal approach may be difficult and one may be required to perform a thoracotomy or a thoracoscopic resection.

The case against performing a routine resection and to rather do a bypass of the strictured esophagus is as follows. As mentioned earlier, more than half of the patients with corrosive stricture of the esophagus are managed with endoscopic dilatations. If the risk of malignancy following corrosive injury is so high, it would be unethical to leave the esophagus intact in any patient who has a corrosive injury. Also the incidence of malignancy in those patients managed with dilatation has to be very high.

However these are not true. Hence it is only reasonable to believe that the actual risk of malignant transformation in a strictured esophagus is an overstatement and the esophagus can be safely bypassed .This precludes a significant morbidity which occurs in the wake of a resectional procedure.

Choice of Conduit

The various options available for an esophageal substitute are the stomach, colon and jejunum. Of the three the most preferred is the colon for various reasons. The colon always had adequate length to reach upto the neck, good collateral arcade and the ease of handling. Stomach is the preferred esophageal substitute following esophagectomy for malignancies. However in the setting of corrosive injury the stomach also might be injured and hence may be unsuitable. Moreover the length of the conduit may be an issue when the stomach is brought up through the substernal or subcutaneous routes. The jejunum is a usually used as a last option and may require microvascular anastomosis making it an technically demanding procedure.

Route of bypass

The various available routes for the conduit are the mediastinal, transpleural, substernal and subcutaneous.The mediastinal route although being the shortest is not usable in cases of esoophageal bypass without resection. The preferred route in the setting of corrosive injury is the substernal route. This route is always intact and free from inflammation easy to create and free from risk of major complications during its creation.

The subcutaneous route may be preferred in special scenarios like cardiomegaly, doubtful viability of the conduit or previous severe mediastinitis obliterating the substernal plane.

Management of concomitant gastric stricture

Patients who have a co existent gastric stricture are best managed with a distal or subtotal gastric resection, depending on the extent of injury, with Billroth I reconstruction as a first stage and are subsequently taken up

for esophagocoloplasty. In cases where there is extensive gastric involvement with a diffusely shrunken stomach, an esophageal bypass using the colon can be done, with the distal anastomosis carried out end-to- side to the proximal jejunum rather than the stomach Complications of esophageal bypass surgery. The most important complications which happen following esophageal bypass are

Intraoperative

1.Hemorrhage

2.Pneumothorax

3.Injury to the recurrent laryngeal nerve

Postoperative (Early and Late)

1. Anastomotic leak and strictures
2. Conduit necrosis
3. Hemorrhage
4. Aspiration
5. Colonic conduit dilatation due to a missed or a late occurring gastric stricture
6. Internal hernia

Rehabilitation

Patients following surgical treatment of esophageal strictures need medica, nutritional and psychological rehabilitation. The feeding jejunostomy is retained for many weeks after surgery till the patient learns to swallow well and is able to achieve full nutritional intake orally Supplementation of vitamins, trace elements and minerals is essential in the perioperative period.

The most important and oft ignored aspect is the psychological rehabilitation. Patients need counselling to tide over the major surgical and psychological trauma of the illness and treatment. In cases of suicidal corrosive ingestions they also have to be evaluated and treated for the pre existing psychiatric problems .Education and involvemt of the family in the entire process of care is vital to achieve optimal and sustainable results.

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PAEDIATRIC UPPER GI PROBLEMS OF SURGICAL IMPORTANCE

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TRACHEOESOPHAGEAL FISTULA

Esophageal atresia with tracheoesophageal fistula (TEF) is a common surgical emergency in Paediatric Surgery in the neonatal period. There is a gap in esophageal continuity along with communication between the trachea and esophagus. TEFs often lead to severe and fatal pulmonary complications. The table below describes the 5 main categories of TEF.

Most patients with TEFs are diagnosed immediately following birth or during infancy(Pure TEF without atresia).Antenatal diagnosis can be made in a small percentage. The incidence varies from 1 in 2000 to 4000 births with slight male preponderance. The exact etiology is not known. Chromosmal abnormalities (Trisomy 18 & 21), exposure to teratogens (thalidomide, progestogens and estrogen) have been reported. Adriamycin has been shown to replicae TEF in experimental models.

EMBRYOLOGY:

The trachea bronchial tree develops from the ventral aspect of primitive foregut. The longitudinal tracheoesophageal fold fuses to form a septum that divides the foregut into a ventral laryngotracheal tube and a dorsal esophagus. The posterior deviation of the tracheoesophageal septum causes incomplete separation of the esophagus from the laryngotracheal tube and results in a TEF. This does not explain all the types. Hypersomatization, role of notochord and vascular insults are also proposed to be causative.

ASSOCIATED ANOMALIES:

Approximately 17-70% of children with TEFs have associated developmental anomalies. These anomalies cardiovascular defects, Genitourinary anomalies, Gastrointestinal anomalies and Musculoskeletal. Some of the known associations include VATER, VACTERL, CHARGE, SCHISIS.

ANTENATAL PRESENTATION:

Must be suspected in the presence of polyhydramnios and absent gastric bubble, lower-than-expected fetal weight, and a distended esophageal pouch.

CLINICAL FEATURES:

The neonate presents with excessive frothing of saliva, coughing choking, transient cyanosis and respiratory distress. No attempt is made to feed the child. Failure to pass a feeding tube into stomach confirms the diagnosis.

CXR reveals coiling of tube, presence or absence of distal air in abdomen, rib and vertebral anomalies, pneumonitis and cardiomegaly. Contrast studies are seldom required, ECHO and USG abdomen and Head are dne to rule out associated anomalies. Surgical repair is required following confirmation of a diagnosis of TEF. The child is kept on continuous low suction in the upper pouch to prevent aspiration. Bronchoscopy is usually performed to confirm the presence of fistula. The child is placed inleft lateral position and repaired by Rt Postero lateral thoracotomy through the 4th space. Extrapleural approach is preferred.

TREATMENT:

Division of fistula and primary esophageal anastomosis is possible in most cases. During the dissection, the azygos vein is divided and the vagus nerve is identified. The distal esophagus is identified and dissected distal to the TEF. The fistula is divided and closure is performed with stay sutures.

Dissection is carefully performed to avoid interruption of blood supply or the branches coming off the vagus nerve. Tracheal suture line may be covered with a flap of mediastinal pleura. Prior to esophageal anastomosis, the proximal pouch of the trachea is mobilized.

A nasogastric feeding tube is placed through the esophagus into the stomach prior to the chest closure, and a chest tube is placed in the retropleural space.

Postoperatively, the infant is ventilated as needed, nasogastric feedings are commenced after extubation. A contrast swallow radiographic examination is performed on the seventh postoperative day. If no leak is detected, oral feedings are resumed.

In view of high incidence of GER, prophylactic anti ulcer and prokinetics are routinely started

If primary anastomosis is not possible, delayed primary repair can be done after 4-6 weeks. This allows esophageal lengthening with gastrostomy to take care of the nutritional needs of the baby.

If not feasible- staged repair is planned- Cervical esophagostomy and abdominal esophagostomy or gastrostomy. Esophageal continuity is later restored with interposition by stomach, gastric tube, colon or jejunum. Common complications include leak, stricture, reflux, recurrent fistula. Tracheomalacia and dysmotility may contribute to failure to thrive and significant morbidity.

INFANTILE HYPERTROPHIC PYLORIC STENOSIS

Pyloric stenosis is the most common cause of gastric outlet obstruction and most often occurs in the first few months of life, and thus be more specifically labelled as **infantile hypertrophic pyloric stenosis**. Marked hypertrophy and hyperplasia of the 2 (circular and longitudinal) muscular layers of the pylorus occurs, leading to narrowing of the gastric antrum. The pyloric canal becomes lengthened, and the whole pylorus becomes thickened. In advanced cases, the stomach becomes markedly

dilated in response to nearcomplete obstruction. The thickened pylorus is felt classically as an olive-shaped mass in the middle upper part or right upper quadrant of the infant's abdomen. This condition typically develops in male babies in the first 2 to 6 weeks of life.

CAUSE

Pyloric stenosis seems to be multifactorial, with some genetic and some environmental components. It is four times more likely to occur in males,[and is also more common in the first born.Rarely, infantile pyloric stenosis can occur as an autosomal dominant condition Possible etiologic factors include deficiency of nitric oxide synthase containing neurons, abnormal myenteric plexus innervation, infantile hypergastrinemia, and exposure to macrolide antibiotics.

Nitric oxide has been demonstrated as a major inhibitory nonadrenergic, noncholinergic neurotransmitter in the GI tract, causing relaxation of smooth muscle of the myenteric plexus upon its release. Impairment of this neuronal nitric oxide synthase (nNOS) synthesis has been implicated in infantile hypertrophic pyloric stenosis, in addition to achalasia, diabetic gastroparesis, and Hirschsprung's disease.

CLINICAL FEATURES

Features of the history in infants with HPS are as follows: V Typical presentation is onset of initially nonbloody, always nonbilious vomiting at 4-8 weeks of age V Although vomiting may initially be infrequent, over several days it becomes more predictable, occurring at nearly every feeding V Vomiting intensity also increases until pathognomonic projectile vomiting ensues V Slight hematemesis of either bright-red flecks or a coffee-ground appearance is sometimes observed V Patients are usually not ill-looking or febrile; the baby in the early stage of the disease remains hungry and sucks vigorously after episodes of vomiting

Prolonged delay in diagnosis can lead to dehydration, poor weight gain, malnutrition, metabolic alterations, and lethargy V Parents often

report trying several different baby formulas because they (or their physicians) assume vomiting is due to intolerance Careful physical examination provides a definitive diagnosis for most infants with HPS. The diagnosis is easily made if the presenting clinical features are typical, with projectile vomiting, visible peristalsis, and a palpable pyloric tumor. An enlarged pylorus, classically described as an "olive," can be palpated in the right upper quadrant or epigastrium of the abdomen in 60-80% of infants. V The tumor (mass) is best felt after vomiting or during, or at the end of, feeding

DIAGNOSIS

Serum electrolytes should be measured to document adequacy of fluid resuscitation and correction of electrolyte imbalances before surgical repair. The classic biochemical abnormality in HPS is hypochloremic, hypokalemic metabolic alkalosis.

ULTRASONOGRAPHY

The criterion standard imaging technique for diagnosing HPS ™ Muscle wall thickness 3 mm or greater and pyloric channel length 14 mm or greater are considered abnormal in infants younger than 30 days Barium upper GI study is routinely not used. *Effective when* ultrasonography is not diagnostic ™ Should demonstrate an elongated pylorus with antral indentation from the hypertrophied muscle May show the "double track" sign when thin tracks of barium are compressed between thickened pyloric mucosa or the "shoulder" sign when barium collects in the dilated prepyloric antrum ™ After upper GI barium study, irrigating and removing any residual barium from the stomach is advisable to avoid aspiration *Endoscopy* ™ Reserved for patients with atypical clinical signs when ultrasonography and UGI studies are non-diagnostic.

MANAGEMENT

Surgical repair of HPS is fairly straightforward and without many complications. However, properly preparing the infant is vitally important.

PREOPERATIVE MANAGEMENT

- Directed at correcting the fluid deficiency and electrolyte imbalance
- Base fluid resuscitation on the infant's degree of dehydration
- Most infants can have their fluid status corrected within 24 hours; however, severely dehydrated children sometimes require several days for correction
- If necessary, administer an initial fluid bolus of 10 mL/kg with 0.45 isotonic sodium chloride solution
- Continue IV therapy at an initial rate of 1.25-2 times the normal maintenance rate until adequate fluid status is achieved Ramstedt pyloromyotomy remains the standard procedure of choice
- The usual approach is via a right upper quadrant transverse incision that splits the rectus muscle and fascia
- Laparoscopic pyloromyotomy may also be used and gives better cosmetic results.
- Endoscopic balloon dilatation of hypertrophic pyloric stenosis after failed pyloromyotomy can be used A supraumbilical curvilinear approach has gained popularity with good cosmetic results.

POSTOPERATIVE MANAGEMENT

Continue IV maintenance fluid until the infant is able to tolerate enteral feedings ™ In most instances, feedings can begin within 8 hours following surgery ™ Graded feedings can usually be initiated every 3 hours, starting with Pedialyte and progressing to full-strength formula Schedules that advance the volume of feeds more quickly or those that begin with ad lib feeds are associated with more frequent episodes of vomiting but do not increase morbidity and actually may

decrease the time to hospital discharge ™ Addition of an H2 receptor blocker sometimes can be beneficial ™ Treat persistent vomiting expectantly because it usually resolves within 1-2 days

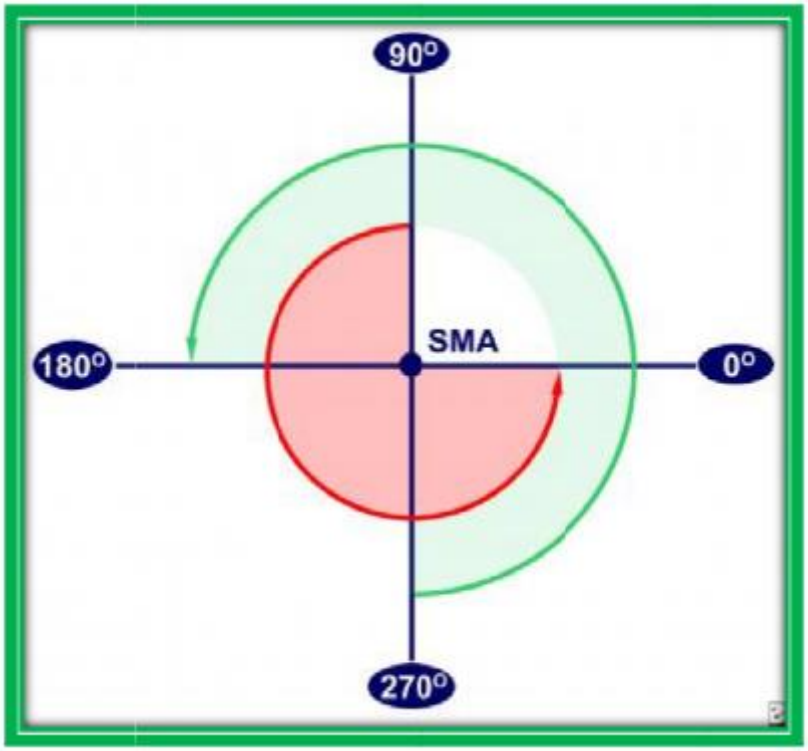
INTESTINAL MALROTATION

Intestinal malrotation, also known as intestinal nonrotation or incomplete rotation, refers to any variation in this rotation and fixation of the GI tract during development. Interruption of typical intestinal rotation and fixation during fetal development can occur at a wide range of locations; this leads to various acute and chronic presentations of disease. The most common type found in pediatric patients is incomplete rotation predisposing to midgut volvulus, requiring emergent operative intervention. During normal abdominal development, the 3 divisions of the GI tract (ie, foregut, midgut, hindgut) herniate out from the abdominal cavity, where they then undergo a 270° counterclockwise rotation around the superior mesenteric vessels. Following this rotation, the bowels return to the abdominal cavity with fixation of duodeno-jejunal loop to the left of the midline and the caecum in the right lower quadrant.

PATHOPHYSIOLOGY

Intestinal malrotation occurs due to disruption of the normal embryological development of the bowel. Understanding of normal abdominal development aids in the understanding of the etiology of the clinical findings seen with malrotation.

The alimentary tract develops from the embryological foregut, midgut and hindgut. Normal rotation takes place around the superior mesenteric artery as the axis. It is described by referring to 2 ends of the alimentary canal, the proximal duodeno-jejunal loop and the distal caeco colic loop, and is usually divided into 3 stages. Both loops makes a total of 270 degrees in rotation during the normal development. Both loops start in the vertical plane parallel to the SMA and end in a horizontal plane.



Stage I occurs between 5-10 weeks' gestation. It is the period of physiologic herniation of the bowel into the base of the umbilical cord. Both loops maintain these positions until the bowel returns to the abdominal cavity. The duodenojejunal loop begins superior to the SMA at a 90° position and rotates 180° in a counterclockwise direction. At 180°, the loop is to the anatomical right of the SMA, and by 270°, it is beneath the SMA. The cecocolic loop begins beneath the SMA at 270°. It rotates 90° in a counterclockwise manner and ends at the anatomical left of the SMA at a 0° position. Also during this period, the midgut lengthens along the SMA, and, as rotation continues, a broad pedicle is formed at the base of the mesentery. This broad base protects against midgut volvulus. Arrest in development at stage I results in nonrotation. Subsequently, the duodenojejunal junction does not lie inferior and to the left of the SMA, and the cecum does not lie in the right lower quadrant. The mesentery in turn forms a narrow base as the gut lengthens on the SMA without rotation, and this narrow base is prone to clockwise twisting leading to midgut volvulus. Stage II occurs at 10 weeks' gestation, the period when the bowel returns to the abdominal cavity. As it

returns, the duodenojejunal loop rotates an additional 90° to end at the anatomical left of the SMA, the 0° position. The cecocolic loop turns 180° more as it reenters the abdominal cavity. This turn places it to the anatomical right of the SMA, a 180° position. Stage II arrest results in incomplete rotation and is most likely to result in duodenal obstruction. Typically, peritoneal bands running from the misplaced cecum to the mesentery compress the third portion of the duodenum. Depending on how much rotation was completed prior to arrest, the mesenteric base may be narrow and, again, midgut volvulus can occur. Internal herniations may also occur with incomplete rotation if the duodenojejunal loop does not rotate but the cecocolic loop does rotate. This may trap most of the small bowel in the mesentery of the large bowel, creating a right mesocolic (paraduodenal) hernia.

Stage III lasts from 11 weeks' gestation until term. It involves the descent of the cecum to the right lower quadrant and fixation of the mesenteries. Potential hernial pouches form when the mesentery of the right and left colon and the duodenum do not become fixed to the retroperitoneum. If the descending mesocolon between the inferior mesenteric vein and the posterior parietal attachment remains unfixed, the small intestine may push out through the unsupported area as it migrates to the left upper quadrant. This creates a left mesocolic hernia with possible entrapment and strangulation of the bowel. If the cecum remains unfixed, volvulus of the terminal ileum, cecum, and proximal ascending colon may occur. Intestinal malrotation occurs in between 1 in 200 and 1 in 500 live births. However, most patients with malrotation are asymptomatic, with symptomatic malrotation occurring in only 1 in 6000 live births. Symptoms and diagnosis may occur at any age, Traditional teaching suggests that as many as 40% of patients with malrotation present within the first week of life, 50% in the first month, and 75% in the first year. However, more recent series have shown that malrotation is increasingly identified in adults. There are also reports of prenatal diagnosis of intestinal malrotation. Malrotation

may occur as an isolated anomaly or in association with other congenital anomalies; 30-62% of children with malrotation have an associated congenital anomaly. All children with diaphragmatic hernia, gastroschisis, and omphalocele have intestinal malrotation by definition. Additionally, malrotation is seen in approximately 17% of patients with duodenal atresia and 33% of patients with jejunoileal atresia.

Intestinal malrotation can present as either an acute or chronic process. Additionally, various types of rotational defects are recognized. The history of present illness varies depending on these different factors.

ACUTE MIDGUT VOLVULUS

- Usually occurs during the first year of life
- Sudden onset of bilious emesis
- Diffuse abdominal pain out of proportion to physical examination
- This is usually associated with abdominal distention with diffuse tenderness and guarding on examination.
- Prolonged volvulus leads to vascular compromise, which can cause intraluminal bleeding evidenced by melena and/or hematemesis.
- Worsening intestinal ischemia can lead to signs of shock

CHRONIC MIDGUT VOLVULUS

- Chronic midgut volvulus is due to intermittent or partial twisting that results in lymphatic and venous obstruction.
- The most common symptoms are recurrent abdominal pain and malabsorption syndrome.
- Further history taking among older patients with acute midgut volvulus may reveal presence of missed diagnosis of chronic midgut volvulus.
- Other clinical features include recurrent bouts of diarrhea alternating with constipation, intolerance of solid food, obstructive jaundice, and gastroesophageal reflux.

ACUTE DUODENAL OBSTRUCTION

- This anomaly is usually recognized in infants and is due to compression or kinking of the duodenum by peritoneal bands (Ladd bands).
- Patients present with forceful vomiting, which may or may not be bile-stained.

CHRONIC DUODENAL OBSTRUCTION

- The typical age at diagnosis ranges from infancy to preschool-age.
- The most common symptom is vomiting, which is usually bilious.
- Patients may also have failure to thrive and intermittent abdominal pain (frequently diagnosed as colic).

INTERNAL HERNIATION

- Internal herniation usually causes chronic symptoms.
- Patients have recurrent abdominal pain, which may progress from intermittent to constant.
- They experience vomiting as well as constipation at times.
- They can present with acute inestinalobstruction withG I bleed.

INVESTIGATIONS:

AXR can be non specific- prominent stomach and duodenum and distal gasless abdomen. Upper GI contrast is the gold standard and shows the DJ flexure and jejuna loops to the right side. USG may show the altered relation of SMV and SMA. SMV is usually to the right. It can pick up whirpooloing of the vessels in the presence of volvulus.

TREATMENT:

Medical care of intestinal malrotation is directed toward stabilizing the patient. NG or orogastric tube insertion. All patients require intravenous resuscitation with physiologic salt solution. Administer broad- spectrum antibiotics prior to surgery, if possible. Resuscitation must proceed along

with preparation for surgery. If a patient has signs of shock, administer appropriate fluids, blood products, and vasopressor medications to improve hypotension. Dopamine is often used as first-line therapy because of its possible effects to increase splanchnic blood flow. Dopamine can be started at an infusion rate of 3 mcg/kg/min intravenously (IV) and continued postoperatively even if the patient is not hypotensive. If the patient is unstable, do not delay surgical intervention for upper GI and laboratory studies. Quick surgical intervention, not prolonged medical management, is associated with the best results if midgut volvulus is suspected.

SURGICAL CARE

The Ladd procedure remains the cornerstone of surgical treatment for malrotation today. A classic Ladd procedure is described as reduction of volvulus (if present), division of mesenteric bands, placement of small bowel on the right and large bowel on the left of the abdomen, and appendectomy. Laparoscopic Ladd procedure is now increasingly being done.

MIDGUT VOLVULUS

If midgut volvulus is present, the entire small intestine along with the transverse colon is delivered out of the abdominal incision, where the volvulus can be reduced. Because the volvulus usually twists in a clockwise direction, reduction is accomplished by twisting in a counterclockwise direction. Complete detorsion usually requires 2-3 twists of the bowel. After the blood supply has been restored by detorsion, the surgeon must make a decision about viability of the involved bowel. The outcome is better when no gangrenous bowel is present or when a small, localized gangrenous segment is present, which can be resected and a primary anastomosis performed. If multiple areas of questionable viability are present, many surgeons choose to leave the areas and perform a second-look operation in 12-24 hours if the patient is not showing clinical recovery.

Grossly necrotic bowel should be resected. Primary anastomosis versus diversion of the fecal stream with a proximal ostomy should be performed at the surgeon's discretion. The highest priority is to preserve the

maximum length of intestine required for survival. Resection of the entire small bowel require life-long parenteral nutrition or small bowel transplant. [29] After the volvulus is reduced or if no volvulus was present, identify any extrinsic obstruction to the duodenum. If peritoneal bands crossing the duodenum are found, ligate them with careful attention to protecting the superior mesenteric vessels. The bands may also obstruct the ileum or the jejunum and sometimes run to the gallbladder and liver. Appendectomy is performed during operation for malrotation as the normal anatomical placement of the appendix is disrupted when the cecum is placed in the left upper quadrant, making the diagnosis of future appendicitis challenging.

TRANSLATIONAL RESEARCH- BENCH TO BED SIDE *A PIONEERING EXPERIENCE OF TWO DECADES*

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Translational research is defined as the movement of discoveries in basic research (the bench)to application at the clinical level (the bedside).It involves the application of findings from basic science to enhance human health and well-being. The transition of laboratory experiments into real patient care practices through various clinical trials demonstrates the “bench to bedside” translation. Helicobacter pylori was first isolated in1983 by Barry Marshall, a gastroenterologist and Robin Warren a pathologist in Perth Australia.

Although it was a serendipitous discovery it was due to resolute perseverance. 34 consecutive biopsies from the stomach mucosa did not grow the bacillus, the 35th biopsy was incubated before the extended Easter holiday and was observed after 5 days which showed the organism which was initially labeled as Campylobacter jejuni, Campylobacter pyloridis, Campylobacter pylori and then Helicobacter pylori. This was postulated to have a role in the etiology of peptic ulcer disease. One of the pioneering studies on the prevalence of H. pylori in patients with upper gastrointestinal disorders in South India was undertaken in 1996.1 It was found to have a prevalence of 91% and 76% in patients of duodenal and gastric ulcers respectively. A similar prevalence of 84% was found in patients of peptic ulcer disease from North India in 2002.2 Owing to its high prevalence in patients of peptic ulcer disease and the association of long term cure with H pylori eradication, it was thought to be the primary cause for duodenal ulcers. However, this remains controversial as in spite of its widespread prevalence only a minority of the infected population develops ulcers. Though the role of H pylori as the primary cause cannot be emphasized dogmatically, there is no doubt regarding the role of H pylori eradication therapy in the treatment of peptic ulcer disease.3Hence early diagnosis of its prevalence in symptomatic patients is imperative.

Diagnosis of H pylori:

A multitude of tests are available for the diagnosis of H pylori, both invasive and non-invasive. Invasive tests include Rapid urease test(RUT), histological appearance of mucosa on Giemsa staining and culture. Non-invasive tests include serology, urease breath test and stool antigen tests. However, a gold standard test has not yet been described and hence a combination of these is being used as the gold standard. The widely used urease test has been standardized in our institute and was found to have a sensitivity and specificity of 93% and 92% respectively when compared to histology.4The sensitivity of endoscopic diagnostic tests such as RUT, histology and a combination of both was found to be decreased in presence of blood and hence a negative report in the setting of acute upper GI bleeding should be interpreted with caution.5 Though not suitable for diagnosis, serology was found to be an effective modality for following up the patients for H pylori eradication.A 25% fall in antiH.pylori IgG titres can be used as an accurate test of eradication.6

Treatment of H pylori infection:

The therapy for H pylori has also undergone significant changes over the past two decades. The standard triple therapy comprising of PPI(omeprazole), Clarithromycin and amoxicillin for 7-14 days had a reported eradication rate of 80-90%.7 However its efficacy has declined over time and hence alternative regimens have been proposed such as the sequential therapy and concomitant therapy.8 Sequential therapy includes 5 day course of PPI with amoxicillin followed by 5 day course of PPI, metronidazole and Clarithromycin. However, a study from our institute demonstrated that metronidazole containing regimens to be unsuitable for use in Indian population due to high native resistance.9 Similar results were observed in studies that followed from Delhi and Kolkata. Majority of RCTs emonstrated a superior eradication rates with sequential therapy. A study from our institute reported no significant difference in the eradication rates

for standard triple therapy and sequential regimen.10The cost of sequential therapy however, was cheaper and incidence of side effects and compliance were found to be similar in each group. Similar reports were obtained in the largest RCT reported from Latin America. Hence, further trialsare needed to recommend a first line therapy. Various modifications of the therapy regimens such as inclusion of probiotics and levofloxacin based therapy and were found to have significant benefits.11,12

Role of H. pylori in complicated peptic ulcer:

The complications associated with peptic ulcer disease are bleeding, perforation and obstruction in the order of decreasing frequency.1 A significant association between H pylori and the complications of peptic ulcer disease was reported almost a decade back thus emphasizing the need for H pylori eradication in these patients.13-15 A significant reduction in re-bleeding has been reported following H pylori eradication therapy. A significant reduction in the rates of ulcer recurrence was reported in patients who received H pylori eradication therapy following simple closure of perforated ulcer when compared to patient who had surgery alone(18% vs.70%).15 The current recommendation is to test all duodenal ulcer perforation patients for H pylori and eradication therapy is recommended in all infected patients. Another report from our institute demonstrated the role of Herpes Simplex Virus-I in the causation of duodenal ulcer.16

Role of H pylori in pathologies other than peptic ulcer disease:

Attempt was made to study the role of H pylori in other gastrointestinal and non-gastrointestinal causes in the past decade. Its association with alcohol induced pancreatitis and esophageal carcinoma was found to be non-significant contrary to few published reports in the literature.17,18It was also demonstrated that there is no role for H pylori eradication in the atients of UGIB with portal hypertension and cirrhosis.19 The role of H pylori eradication to increase the platelet counts in patients of chronic ITP has also been demonstrated.20

OTHER AREAS OF TRANSLATIONAL RESEARCH:

There has been a growing interest in the field of other upper gastrointestinal pathologies unrelated to H pylori such as role of receptor status (ER, PR) in patients of esophageal cancers, role of pepsinogen levels in screening for carcinoma stomach.21,22The ER, PR status was correlated with tumor type, tumor differentiation and tumor stage. None of the specimens showed PR and ER α receptor status, however, ER β was found to be a marker for poor biological behavior of the tumor; association being higher with adenocarcinoma when compared to squamous cell carcinoma.21 Serum pepsinogen analysis was found to be a useful diagnostic tool in the diagnosis of carcinoma stomach with a sensitivity of 97%.22However, its role in portal hypertensive gastropathy, non-ulcer dyspepsia, peptic ulcer, H. pylori gastritis and erosive gastritis could not be established. Ongoing research activities based on the “translational research” approach will in the long run lead to many a “practice changing” innovations and practices thus leading to better outcomes in our patient care.

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RECENT TRENDS IN MANAGEMENT OF LIVER TRAUMA

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INTRODUCTION:

Road traffic accidents continue to be of epidemic proportions and sadly trauma workload has increased. Liver and spleen are commonly injured in victims of polytrauma[1]. The location, consistency and its attachments renders the liver vulnerable to injury.

ANATOMY AND PATHOPHYSIOLOGY

Though partly covered by the costal margin, the elasticity of the rib cage and the downward movement related to respiration means that traumatic forces do damage the liver. Liver is the largest intra-abdominal organ with a large blood flow related to its function and also its dual supply. Hence once damaged, particularly if the capsule is breached, life threatening haemorrhage can occur. Once parenchyma is disrupted, bile also leaks. This can produce delayed problems related to its inflammatory effects and also the propensity to form collections and abscesses. Devitalised liver tissue is a source of sepsis and delays recovery. On a positive note, liver is the only organ which can reconstitute itself even after losing significant volumes of the native tissue. Nearly 80% of the blood supply is from portal vein, a low pressure system, hence simple compression can stem bleeding.

ASSESSMENT

Trauma needs multidisciplinary approach. It also needs leadership; the clinician in charge may need to prioritise and coordinate care for the injured patient. Trauma respects no boundaries with regard to specialities. Clinicians need to be aware

and be prepared to diagnose serious evolving problems in associated specialities as well eg. An evolving extra dural or a limb going cold. After initial triaging, it is important to acquire a CT scan[2]. Current CT machines are very efficient with regards to acquisition of images and most patients can be scanned rapidly whilst continuing fluid resuscitation. CT provides an objective baseline and can act as a good initial guide to planning and triaging care. A 'vertex to pubis' scan in patients with multisystem injuries can help in triaging and also unnecessary multiple trips to imaging facilities. Liver injuries can consist of capsular tears, parenchymal fractures, haematomas and even vascular avulsion. Grading systems, whilst useful for documentation, are of limited value to guide treatment. The management is entirely dependant on the haemodynamic stability. However dramatic the liver injury appears on CT, if the patient is stable, there is a role for conservative treatment. Conversely, in the presence of continued bleed/ instability, there should be no hesitation to perform an exploratory laparotomy even if CT suggests minimal injury. Other injuries also has to be borne in mind**. The most important tool in trauma is repeated clinical assessment**. Sometimes trauma patients are brought in immediately after injury and can be misleadingly stable on arrival, only to deteriorate later in the wards. Even the initial CT can be misleading.

MANAGEMENT

NON OPERATIVE TREATMENT:

In the absence of continued bleed or haemodynamic instability, liver injuries can be managed conservatively. The risk of bleed in highest in the first 24 hours. Haemodynamic instability and continued bleed warrant laparotomy.

SURGERY

Fortunately most liver injuries can be managed by perihepatic packing. However this has to be done properly. Falciform ligament should be divided and if necessary the left coronary also. The aim should be to circumferentially compress the liver. The packing should be adequate; an

average of at least six laparotomy pads are suggested. Adjacent organs such as spleen , bowel etc should be inspected for injuries. Packs can be removed after 24 to 48 hours depending on stability of patient. It is advisable to leave drains at time of pack removal in preparation for any potential bile leak. At time of pack removal, additional manoeuvres such as removal of obviously dead liver fragments can be done. However outwith specialist centers, it is not necessary to formally explore liver lacerations as they can trigger further bleed. Associated vascular injuries especially in penetrating injuries can be a challenge. Various complex repairs after veno- venous bypass have been successfully done. Back bench repair techniques after explanting the injured liver has also been described. Liver transplant as an extreme option has been reported[3]. These are in the realm of specialist centers, and rarely are required or applicable in common practice.

Radiological interventions.

Angiography is useful in case of delayed bleed following pack removal. Embolisation can identify and stop the bleed. This needs expertise and not always available. More commonly, radiological drainage is required for bile collections and septic foci.

Endoscopy

Persistent bile leaks need to be examined with endoscopic retrograde cholangiography. Sphincterotomy and stenting of common bile duct will dry most leaks. Continued bile leak is a source of sepsis and has debilitating nutritional consequences.

Intensive care

Patients in the later stages of trauma need, various supportive measures which have to be on an individual basis. Tracheostomy, chest tubes, suprapubic in case of urological injuries are just a few of associated

interventions which may be required. Ventilatory support, haemodialysis parenteral nutrition are some of the measures which may be required in the care of the seriously injured. Whilst using multimodal therapy, it should be emphasised that care should be coordinated and prioritised carefully for the best outcome.

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LIVER TRANSPLANTATION FOR ACUTE LIVER FAILURE: CURRENT STATUS

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Acute liver failure (ALF) is a hepatic emergency. Although an uncommon illness in the community, it can lead to devastating consequences to the patient and family involved. There is no published data on the incidence of ALF in India. In the US, the annual incidence is about 2000. The cost of care is high. In India, the liver transplant package alone may cost between 11.5 lakhs to 30 lakhs depending on the centre and type of transplant. When the cost of the work up, the medical management leading up to the transplant and the cost of lifelong immunosuppression and surveillance are added, the economic burden may be significant. In most instances, there is no specific medical treatment that will reverse the liver failure, once it sets in. Liver transplantation, performed as an emergency, by virtue of completely replacing the diseased liver, holds promise in the setting of ALF, which has advanced to a stage where medical management is likely to be futile. Liver transplant is not without problems. In addition to the inherent perioperative risk of mortality and morbidity of a high risk surgery, there is a long term commitment to immunosuppresion with its attendant life-long potential risks.The key factor, therefore, is to select the right patient who has a low probability of transplant free survival, reasonably early in the course of the illness and to offer liver transplant before it is too late.

ETIOLOGY

There is a wide geographical variation in the etiology of acute liver failure. Broadly the three main etiological categories are viral, drug induced and indeterminate (table 1). The most common cause in India is viral (Hep E

being the most common), while in the west, it is acute paracetemol overdose [1,2]

DEFINITIONS

In adults, the occurrence of hepatic encephalopathy in a clinical context consistent with acute liver injury, in the absence of preexisting liver disease defines ALF. However, in addition, Jaundice, coagulopathy and the time course over which this evolves are all key components of the definition of acute liver failure. There are a few caveats, for example in children, the demonstration of hepatic encephalopathy is not mandatory to label ALF; coagulopathy (INR >2) in the appropriate clinical context alone would suffice. Some diseases such as Wilsons, autoimmune hepatitis and Budd-Chiarri syndrome may have acute presentations for the first time as liver failure, although imaging may unravel evidence of background chronic liver disease. As the prognosis of these presentations is identical to de novo ALF, they are treated as such. There is some discrepancy amongst various studies as to the definition and characterisation of the types of liver failure. A systematic review addressing this issue identified 41 definitions amongst 87 studies [3]. One widely used definition defines the onset of encephalopathy within 12 weeks of jaundice. If the interval is within a week it is termed hyperacute; if between 1-4 weeks, it is acute and if between 4-12 weeks, it is subacute liver failure.

PREDICTING PROGNOSIS:

It is essential to be able to predict the outcome of ALF reasonably early in the course so as to use the option of liver transplant appropriately. There are essentially two primary goals of prognostication in ALF – to identify as to who needs transplant and to do this before significant cerebral edema, organ failure or sepsis sets in. A number of prognostic parameters have been evaluated in ALF and qualitatively, these fall into one of three categories: markers of hepatocellular destruction; markers of regeneration and markers of hepatic functional capacity [4]. In terms of composition, the markers may beclassified into simple, single parameter tools (such as

arterial ammonia, serum phosphate or serum alpha-feto protein) or composite tools which combine a variable number of clinical and/or laboratory parameters (such as MELD score; King's college criteria (KCC); Clichy criteria or ALFED score)[Table 2 and 3]. In general, patients aged <10 yrs or > 40 yrs do poorly. Nonparacetemol and non-viral etiologies are considered unfavourable, in terms of spontaneous recovery. The hyperacute type of presentation has a better prognosis than the acute which fares better than the subacute. These aspects of prognostication are incorporated in the KCC, which is widely used in India.

MEDICAL MANAGEMENT:

Specific treatment:

In some special situations it may be possible to modify the course of events in well selected patients such as the use of N-acetyl cysteine therapy in paracetemol poisoning; antiviral therapy in acute hepatitis B related ALF and chelation therapy in acute Wilsons disease, steroids in autoimmune hepatitis and activated charcoal in Amanita poisoning. They need dynamic surveillance and may require liver transplant in the face of progressive liver failure.

General management:

Large volume plasmapheresis and early introduction of renal replacement therapy may have some potential in optimising patients while awaiting transplant and hence maintaining candidacy for transplant. While there is proof of biochemical improvement and attenuation of inflammatory markers, these have however not translated to improvement in post-transplant survival benefit. The same applies to extra-corporeal liver support systems. N acetyl cysteine may have marginal benefits even in non-paracetemol related ALF. The key components of medical management of patients with ALF are preventing rise in intracranial pressure; managing sepsis and providing organ support [1,2]. Invasive monitoring of intracranial pressure with bolts,has not improved survival outcomes and has risks. Non-invasive methods of monitoring such as measurement of optical nerve

sheath diameter, transcranial Doppler and spectrometry are preferable but suffer from inconsistencies. Intracranial pressure should be maintained at <20mm Hg and cerebral perfusion pressure at > 60mm Hg. Ways to reduce intracranial pressures include sedation and paralysis; Head end elevation; reduction of sensory inputs; the judicious use of mannitol (0.5-1gm/kg of 20%); hypertonic saline (3% saline; serum sodium target of 145-155 meq/l); hyperventilation to reduce PCo2; possibly mild hypothermia andIndomethacin. Anti-ammonia measures such as protein restriction; lactulose; zinc; Branched chain amino acids; L-ornithine L-aspartate (LOLA) have not shown consistent effects in ALF, but are used. Steroids have no benefit in treating ALF related cerebral edema. Broad spectrum antibiotic and antifungal cover is standard, in the perioperative period. Mainatining a mean arterial pressure over 70mmHg; an adequate Po2; ensuring adequate intravascular volume; avoiding nephrotoxic drugs; maintaining euglycemia are all important elements of intensive care management.

LIVER TRANSPLANT:

The success of medical management i.e spontaneous recovery without transplant varies between 25-60%, depending on the etiology, the type of presentation (hyperacuteVs acute VsSubacute) and the degree of liver failure at presentation. Advanced encephalopathy (grade III and IV), progressive coagulopathy and rising bilirubin are **N** typically poor markers of transplant free survival. The King's college criteria, though it has its limitations, is widely used for listing patients on the super-urgent list in the UK and in India[table 4].It is vital to remember that KCC may fail to identify the need for transplant in up to 30% of patients and may result in a fifth of patients requiring a transplant that could have been avoided. KCC performs better in the setting of paracetemol related ALF and in advanced stages of encephalopathy. Once patients are within criteria, the transplant free survival is about 15-20%, while the 1 year survival with transplant is between 60-80%. Degree of encephalopathy correlates with cerebral edema and hence advanced grades of encephalopathy have poorer outcomes, even with transplant. This is one of the reasons that in the UK recent

modifications have been made to allow listing of patients with unfavourable etiology even in the abscence of encephalopathy. Contraindications for liver transplant in the setting of ALF are [1,2]:

- Evidence of brain death
- Fixed dilated pupils
- Tonsillar herniation on CT
- No cerebral flow on angiogram
- Raised ICP>40mm Hg for >2hr
- Cerebral Perfusion Pressure <40mm Hg for >2 hr
- Uncontrolled sepsis
- Uncorrectable coagulopathy
- Norepinephrine >1µg/kg/min
- ALI/ARDS:PEEP>12 And Fio2> 0.6
- Mean PAP >40mm PaO2/FiO2 <100

Severe acute pancreatitis in Paracetemol overdose In India, once a patient with ALF is identified as being in criteria, with no ontraindications, and the family is willing for the transplant after appropriate counselling, the patient is eligible to be listed with the regional or state organ and tissue transplant organisation as a 'super-urgent'transplant candidate, which confers priority in allocation of group matched deceased donor liver when it becomes available. ABO group incompatible transplant has also been successfully performed with a modified desensitisation protocol, in the setting of ALF, but the outcomes in general, are inferior. In India and in most Asian nations, living donor liver transplantation for ALF is the more realistic option, provided there is a suitable group matched voluntary donor between the age of 18-50 years, who is otherwise healthy and has a liver that is assessed to be volumetrically and anatomically appropriate. Other special techniques that have been used in the setting of ALF are Auxillary partial orthotopic

liver transplantation (APOLT) and dual grafts (from 2 donors, if the graft volume from a single donor is deemed inadequate). Once identified as a transplant candidate, coagulopathy should be corrected promptly. A CT scan of the brain may be performed enroute to the operation theatre, if there is uncertainty about papillary reaction to make sure that there is no herniation or intracranial bleed, which would preclude transplant. A quick hepatectomy with early ligation of hepatic arteries; minimisation of blood loss; avoiding rapid fluctuations in blood pressure and ensuring an adequate volume of the graft (GRWR close to 1) are all key points in technique. Rarely, if there is rapid deterioration in the patient, and a graft is not immediately available, there is a role for performing a staged operation - initial hepatectomy, return to intensive care in an anhepatic state, for organ support and proceed with an implant once the graft is available. The longest recorded such anhepatic duration has been 66 hours. ALF recipients have a higher risk of acute cellular rejection and it may be a challenge to balance the need for adequate early immunosuppression and the risk of sepsis. The two most common causes of post-operative mortality are sepsis (bacterial and fungal) and neurological complications (progressive cerebral edema; haemorrhage). Most of the mortality in patients transplanted for ALF occurs within 90 days, so that the post-transplant 1 year survival ranges between 60-80% in most series and the 5 year survival is only marginally less. Factors associated with a poor post-transplant outcome are: recipient age >50 yrs; Male gender; Recipient BMI >29; Encephalopathy grade III/IV; Creat>2mg%; Mechanical ventilation; Inotrope dependence; Donor age >60; Donor BMI > 35; ABO incompatible transplant; Partial grafts and severe graft steatosis [1,2].

SUMMARY:

Liver transplantation, in carefully selected patients, is a life saving tool. Management of cerebral edema is the key. The encephalopathy to theatre interval may be an important determinant of outcomes. Although the overall 1 year survival outcomes are inferior to elective transplants

performed for chronic liver disease, it is still worthwhile, as it salvages at least 50% of patients who would otherwise not survive.

Table1. Etiology of acute liver failure:

COMMON CAUSES	SPECIAL SITUATIONS
• Viral – Hepatitis A; B; E – Other: EBV; Parvo; HSV • Drug induced: – ATT – Paracetemol – Phenytoin – Complimentary &Alternative Medicine (CAM) – Mushroom poisoning (Amanita) • Indeterminate	• Budd-ChiarriSyndrome • Acute Wilson's disease • Post hepatectomy liver failure (PHLF) • Primary Non-Function (PNF; Post-transplant) • HELLP syndrome • Acute fatty liver of pregnancy • Metabolic (e.gTyrosinemia; Mitochondrial defects; Respiratory chain defects; Fatty acid oxidation defects) • Heat stroke induced ALF

Table 2. Prognostic markers – Single parameters [1-9]

BIOCHEMICAL	OTHER
• INR • Phosphate • Arterial ammonia • Lactate • pH < 7.26 despite resuscitation • Alpha-feto protein: D3/D1 ratio >1 better • Factor V levels • Actin free Gc-Globulin • Angiopoietin-2 • Cytokeratin 18 fragments: M30; M65	• Liver span • CT Volumetry: CTLV/SLV <0.8 • ICG clearance rate <6.3%/min • Galactose elimination capacity • C-Methacetinelimination breath test • Liver biopsy

CTLV - CT liver volume;
SLV - standard liver volume;
ICG - Indocyanine green

Table 3. Prognostic markers – Composite models [1-9]

- MELD (**Bilirubin; INR; Creatinine**): > 30 or 33
- UK: King's college criteria– Paracetemol/Non-paracetemol(table 4)
- French: Clichy criteria (**Encephalopathy and factor V levels stratified by age**)
- Japanese criteria (**Unfavourable etiology ;HE grade 3/4;SIRS;Total/direct bilirubin ratio > 2**)
- German: BiLE score (**Bilirubin; lactate; Etiology)**
- Indian:
  - AIIMS score [Acharya]: 4 variables (**Age ≥40 years;PT prolongation ≥25 sec; Cerebral edema; Bilirubin ≥15 mg/dl).** Presence of 2 or more predicts mortality – sensitivity 93%; specificity 81%.
  - PGIMER CPI score [Dhiman]: 6 variables (**Age ≥ 50 years;PT prolongation ≥35 sec; Cerebral edema;Advanced HE; Jaundice to encephalopathy ≥7 days; Creatinine ≥ 1.5 mg/dl)** Presence of 3 or more predicts mortality – sensitivity 74%; specificity 86%.
  - ALFED score [Kumar &Acharya]: **A**cute **L**iver **F**ailure **E**arly **D**ynamic Score. Two time points – at admission and on day 3. Four parameters (**Advanced HE; Ammonia >123 micmol/L;INR >5;Bilirubin>15 mg%**). Stratifies into 3 risk groups. Moderate and high risk groups have poor survival on medical management.
- ALFSG predictive index: Mathematically factors **Degree of HE; Bilirubin; INR; Phosphorus and M30** (apoptosis marker in blood). Predicts transplant free survival.
- ALFSG predictive model: Mathematically factors **Etiology, Degree of**

HE, Bilirubin, INR and Vasopressor usein a predictive equation that provides estimates of transplant free survival.

- SOFA score /APACHE II score

MELD	-	Model for end stage liver disease; HE- Hepatic encephalopathy;
ALFSG	-	ALF study group; SOFA- Sequential organ failure assessment

Table 4. UK listing categories and criteria for ALF (adapted from KCC)

Category 1

Aetiology: Paracetamol poisoning: pH <7.25 more than 24 hours after overdose and after fluid resuscitation

Category 2

Aetiology: Paracetamol poisoning: Co-existing prothrombin time >100 seconds or INR >6.5, and

serum creatinine>300 µmol/l or anuria, and grade 3–4 encephalopathy

Category 3

Aetiology: Paracetamol poisoning: Serum lactate more than 24 hours after overdose >3.5

mmol/l on admission or >3.0 mmol/l after fluid resuscitation

Category 4

Aetiology: Paracetamol poisoning: Two of the three criteria from category 2 with clinical

evidence of deterioration (e.g. increased ICP, FiO2>50%, increasing inotrope requirements) in

the absence of clinical sepsis

Category 5

Aetiology: Seronegative hepatitis, hepatitis A, hepatitis B, or an idiosyncratic drug reaction.

Prothrombin time >100 seconds or INR >6.5, and any grade of encephalopathy

Category 6

Aetiology: Seronegative hepatitis, hepatitis A or hepatitis B or an idiosyncratic drug reaction.

Any grade of encephalopathy, and any three from the following: unfavourable aetiology

(idiosyncratic drug reaction, seronegative hepatitis), age >40 or <10 years, jaundice to
encephalopathy time >7 days, serum bilirubin >300µmol/l, prothrombin time
>50 seconds or INR >3.5

Category 7

Aetiology: Acute presentation of Wilson's disease, or Budd-Chiari syndrome. A combination of
coagulopathy, and any grade of encephalopathy

Category 8

Hepatic artery thrombosis on days 0 to 21 after liver transplantation

Category 9

Early graft dysfunction on days 0 to 7 after liver transplantation with at least two of the following:
AST >10,000, INR >3.0, serum lactate >3 mmol/l, absence of bile production

Category 10

The total absence of liver function (e.g. after total hepatectomy)

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CHRONIC PANCREATITIS

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The 1983 Cambridge symposium proposed that chronic pancreatitis be defined as a continuing inflammatory disease of the pancreas characterized by irreversible morphological change, and typically causing pain and /or permanent loss of function. The disease presents with disabling abdominal pain, local complications, and functional deficiency which leads to diabetes mellitus and steatorrhea.

Aetiology:

1. Alcohol,
2. Ductal obstruction,
3. Congenital or acquired strictures of the pancreatic duct,
4. Pancreas divisum,
5. Ductal obstruction due to tumors,
6. Inflammation of the ampulla of Vater,
7. Protein malnutrition,
8. Cystic fibrosis,
9. Hypercalcemic states,
10. Hereditary pancreatitis,
11. Idiopathic pancreatitis

Symtoms:

Presents with abdominal pain mainly in the epigastrium with radiation to back, food aggravates pain, relieved by siting or leaning forward position.

Pain occurs in 50-90% of patients and either they are episodic with pain free intervals or continuous unrelenting pain.

The causes of pain are due to continuing pancreatic inflammation, pseudocyst formation, increased intra ductal pressure and involvement of pancreatic and peripancreatic nerves.

Diabetes occurs in 40-70% of patients and steatorrhea occurs when 90% of pancreatic gland and functions are lost.

Diagnostic tests:

The three established diagnostic pillars are imaging, functional testing and histology.

The Cambridge symposium classified the imaging findings of chronic pancreatitis, as they relate to ERCP, CT, and EUS, according to the severity of the findings(normal, mild, moderate and severe) and not according to the stage of the disease(early or late).

Plain abdominal film may reveal pancreatic duct stone, calcification in 30-50% of patients. EUS helps to differentiate between benign and malignant pancreatic head enlargement, identify cysts and to do FNA.

CT provides information about morphological changes in the gland, peripancreatic changes and complications.

ERCP delineates ductal dilatation & irregularity, stricture, calculi, cyst and duct obstruction accurately in 90% of patients. Blood glucose, 24 hr. fecal fat test, and fecal elastase tests areused to detect functional abnormalities.

Complications:

1. Pseudocyst,
2. Secondary infection,
3. Mechanical obstruction of the duodenum and common bile duct,
4. Pancreatic ascites,
5. Pleural effusion,
6. Splenic vein thrombosis with portal hypertension.

Management:

Abdominal pain is managed with analgesics with or without antidepressants, cessation of alcohol, decreasing pancreatic duct pressure and relief of ductal obstruction, specific treatment of complications like pseudocyst, biliary obstruction, neural blocks and surgery.

Endoscopic therapy is used for ductal disruptions with pseudocyst, pancreatic effusion or ascites.

Pancreatic stone removal, stenting and sphincterotomy can be done in selected patients.

Surgery provides sustained relief of pain and good quality of life.

Various surgical options are available like

- drainage procedures,
- Hybrid operation like Head coring & drainage and resection options like pancreaticoduodenectomy according to the type of disease.

In mass lesions cancer needs to be ruled out. Nerve interruption procedures are done for unrelenting pain.

BILIARY INJURY FROM LAPAROSCOPIC CHOLECYSTECTOMY

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Davidoff's classical injury – Misidentification of the common duct for the cystic duct

Other modes - clip ligation of the distal common duct with proximal ligation and division of the cystic duct

Strasberg-Bismuth classification:

Injuries can be discovered either intraoperatively or postoperatively

Intraoperative BDI	Postoperative BDI
• Visualization of bile in field, anatomy not clear • Injury visualized, anatomy not clear • Injury visualized, anatomy clear	• Bile leak / external biliary fistula • Biloma / Biliray ascites • Biliary peritonitis • Biliary strictures

Management requires a multidisciplinary approach:

- Surgeon with experience in biliary problems
- Gastroenterologist with ERC experience
- Interventional radiologist (PTC/PTBD)

Intra-operative Injuries:

- Intraoperative cholangiogram –

  Advantages

  - Define anatomy – extent of injury
  - Minimizes injury
  - Guide management
    - Peripheral duct injury: Ligation
    - Major duct injury: Primary repair if expertise available

  Limitations

  - Misinterpretation – Incomplete visualization of anatomy
  - Right posterior sectoral duct likely to miss

- Treatment –

  - Lateral injury – Direct repair
  - Lateral injury with minimal tissue loss – Repair over T-tube
  - Transection / major tissue loss – Hepatico-jejunostomy

Postoperative Injuries:

Early detection:

- Patient not doing well postop
- Drain has bile
- Abdominal distension
- Altered LFT

Management concepts:

- Adequate drainage
- Sepsis control

- Laparotomy / Laparoscopy / PCD
- Drains in sub-hepatic space
- Controlled external biliary fistula

ERC stenting

- Controversial role in management
- Attempted in cases where continuity of bile duct maintained
- Type A,D injuries can be managed by ERC stenting

ABSTRACTS

COMPARISON OF 4 SCORING SYSTEMS IN PREDICTING THE SEVERITY OF ACUTE PANCREATITIS –A PROSPECTIVE OBSERVATIONAL STUDY

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Department of Radiodiagnosis.

Background:

Acute pancreatitis is inflammation of the pancreas which is characterized by activation of pancreatic enzymes to cause self -digestion of pancreas. It is an acute inflammatory process presenting as a mild discomfort with local inflammation to severe disease with multi- organ failure. It has amortality of around 1% among all acute pancreatitis but so high as 20 to 30% among those with severe acute pancreatitiswhich is a process of acute inflammation of pancreas with the involvement of regional tissues or organ systems. There are several indices in use to evaluate severity of pancreatitis. This study is an attempt to compare different scoring systems for predicting the severity in acute pancreatitis.

Objective :

The objective of the study was to compare the efficacy of scoring systems with CECTabdomen as gold standard in diagnosing severity of acute pancreatitis to identify the best scoring system in prediction of severity of acute pancreatitis.

Materials and methods:

This was a prospective observational study. All patients who were referred to JIPMER casualty and admitted with the clinical suspicion of acute pancreatitis were included in the study. A total of 164 patients with

acute pancreatitis clinically based on Atlanta classification were included in the study. APACHEII, BISAP score , Modified Glasgow score, Ranson score on Admission and 48 hours after admission and procalcitonin levels were measured to identify the scoring system with the best predictive accuracy. Sensitivity and specificity were done using Wilson method using openepi online calculator.

Results :

Out of 164 acute pancreatitis patients, 104 patients had features suggestive of severe acute pancreatitis based on Atlanta classification. CECT abdomen was done in 69 patients who had clinical features of severity 72 hours after admission. CECT was not done in the other 35 patients due to organ failure. Alcohol was the most common cause of acute pancreatitis in our study seen in 115(70.1%) patients. Thirty five patients (33.65%) developed persistent organ failure and 15 (12.5%) died. CECT abdomen showed modified CT severity index ≥ 8 in all 69 patients. In this study, sensitivity of Modified Glasgow score using cut off value ≥3 as per literature was 79.7 % with 95% CI (68.78 – 87.51%), specificity was 31.4% with 95%CI (18.55-47.98%), positive predictive value was 69.6% with 95%CI (58.77-78.66%), negative predictive value was 44% with 95%CI (26.67-62.93%) and diagnostic accuracy was 63.4% with 95% CI (53.88-72.08%).The sensitivity of Modified Glasgow score using literature cut off for early organ failure ≥3 was 68.5 % with 95% CI (52.02 – 81.45%), specificity of 20.2% with 95%CI (12.49-31.22%), positive predictive value was 30.3% with 95%CI (21.34-41.23%), negative predictive value 56% with 95%CI (37.07-73.33%) and diagnostic accuracy was 36.5% with 95% CI (27.92-46.12%). sensitivity of Ranson score at admission using literature cut off for early organ failure ≥3 was 14.2 % with 95% CI (6.26 – 29.38%) , specificity of 68.1% with 95%CI (56.42-77.91%) , positive predictive value as 18.5% with 95%CI (8.181-36.7%), negative predictive value as 61% with 95%CI (49.87-71.16%) and diagnostic accuracy was 50% with 95% CI (40.56-59.44%).Values generated from the receiver-operating characteristic curves, the following cut-offs were selected for further analysis. Ranson≥ 2, Glasgow

≥ 3, BISAP ≥ 2,APACHE II ≥ 6, procalcitonin≥ 1.5 ng/ml. APACHE II score was associated with mortality in severe acute pancreatitis in 12(63.5%) patients when a cut-off ≥ 8was used as per literature but when the cut-off was improved to ≥ 10 based on ROC curve from this study, the association was in 8(42.1%) patients. Hospital records of 60 patients who were labeled mild pancreatitis clinically based on Atlanta criteria were followed up. Totally 37 patients discharged as mild pancreatitis as per original Atlanta classification were readmitted. 15 patients had mild pancreatitis. CECT abdomen was done for 22 patients. Modified CT severity index was calculated for these 22 patients. 5 patients had documented evidence of chronic pancreatitis in CECT abdomen, 10 patients had CT severity index less than 6, 3 patients had CT severity index ≥ 8 and 4 patients had normal findings.

Conclusion:

Our results demonstrated that Ranson score on admission had the best area under curve based on receiver operating characteristic curve for prediction of severity in acute pancreatitis among the four scores.APACHE II score had the best area under curve based on receiver operating characteristic curve for association with mortality in severe acute pancreatitis patients. Procalcitonin on admission had the best sensitivity, specificity, positive predictive value and diagnostic accuracy for predicting severity in acute pancreatitis, organ failure and mortality.

ACUTE INTRATHORACIC GASTRIC VOLVULUS DUE TO DIAPHRAGMATIC HERNIA: A RARE EMERGENCY

Dr. Sigharth Sabu Cherian, Dr. Nirmal Kumar, Dr. Jacob Jayakar

Dept. of Surgery, PIMS, Pondicherry

INTRODUCTION:

Acute intra thoracic gastric volvulus occurs when the stomach undergoes organoaxial torsion in the chest due to either concomitant enlargement of the hiatus or a diaphragmatic hernia.

Congenital diaphragmatic herniae (CDH) are rare, occurring in 1 of 3000 live births. The true prevalence in the adult population remains unknown. Autopsy studies estimated the prevalence in adults to be 1:7000 to 1:2000, whereas reviews of CT scans estimated the prevalence to be as high as 6%.

CDH occur when there is a developmental defect of the diaphragm's muscular components. The diaphragmatic defect may allow displacement of abdominal viscera into the thorax during fetal development. The most common type of CDH is a postero-lateral defect in the diaphragm, named Bochdalek hernia after it was first described by Victor Alexander Bochdalek in 1848.

The incidence of postero-lateral diaphragmatic herniae has been estimated to be 1:12,500 to 1:2200 live births. The diagnosis of Bochdalek hernia in adults is extremely rare and less than 200 patients have been reported. One study reported an incidence of 0.17% based on 13,138 abdominal CT scan reports reviewed in 1 year.

CASE STUDY: We are presenting a 43 year old gentleman, a known case of poliomyelitis, who came to our ER with complaints of epigastric pain- dull aching, non radiating type for 5 days duration. He had complaints of vomiting- bilious, non blood stained. He also had associated obstipation for 3 days duration. However, he was not in sepsis or shock.

On evaluation, x ray chest showed 'eventration of diaphragm' on the left side. On further evaluation with a contrast enhanced CT, it showed-

herniation of omentum, body of stomach, the Splenic flexure and part of the transverse colon through a defect in the postero-lateral aspect of the left diaphragm with gastric volvulus at the level of the body of the stomach, suggestive of mesentero-axial volvulus with left diaphragmatic hernia.

The patient was taken up for emergency laparotomy, intra operatively; the above mentioned findings were noted. The defect was extended, the hernia was reduced. Detorsion of the gastric volvulus was done. No gangrene was noted either in the stomach or the large bowel.

The defect was closed with a non absorbable suture material, continuous sutures. Gastropexy was also performed.

The patient recovered well after the surgery and he was discharged on post operative day 7.

"A RARE CASE OF ENTEROCYSTIC FISTULA DUE TO RETAINED FOREIGN BODY" .

Dr.Rajprakash,Prof. Ambujam

Vinyaka Missions College, Karaikal

A 35 yr old female presented with abdomen pain and on further evaluation x- ray showed a retained artery forceps which was operated and removed
ABSTRACT :

TOPIC- "A RARE CASE OF GIST "

PRESENTOR- DR.C.RAJ PRAKASH

GUIDE- PROF.AMBUJAM

A 45 yr old patient presented with vomiting and melena . He was anemic and ugi scope showed polypoidal lesion in D1 with ulceration . . The treatment protocol with intra op pics and ctpics will be presented in free poster session as a poster

AN INGUINAL SURPRISE – AMYAND'S HERNIA

PRESENTOR :Dr.S.C.NAREN KUMAR

post graduate 3 rd year MS general surgey ..

VINAYAKA MISSION MEDICAL COLLEGE ,KARAIKAL..

GUIDE: PROF.Dr.AMBUJAM,MS,FAES,FICS

Dr.J.BALAKUMAR,MS

A case of right inguinal swelling came to surgery OPDoperated content found in the hernia sac was surprise case details and intra operative pics will be discussed in poster.

COMPARISON OF ADAPTED ENHANCED RECOVERY AFTER SURGERY PATHWAY VERSUS STANDARD CARE FOLLOWING SIMPLE CLOSURE OF PERFORATED DUODENAL ULCER-A RANDOMIZED CONTROLLED TRIAL

MohsinaSubair, ShanmugamDasarathan, Suresh Kumar S, PankajKundra*, Mahalakshmy T**, Vikram Kate

Departments of Surgery, Anaesthesia and Critical Care*, Preventive and Social Medicine**

Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Pondicherry

Abstract

Introduction: The Enhanced Recovery after Surgery (ERAS) pathways although widely used in elective procedures, its role in emergency setting remains uncertain; with only two published reports. The ERAS programme is often modified in elective procedures on an institutional basis and thus may have a role in emergency setting albeit in modified form. Hence, this study was carried out to investigate the feasibility and efficacy of adapted ERAS pathways in an emergent setting in patients undergoing simple closure for perforated duodenal ulcer.

Methodology: This was a single-center, prospective, open labeled, parallel arm, superiority, randomized controlled trial carried out in a tertiary care hospital between September 2014 and May 2016. Patients with perforated peptic ulcer undergoing simple closure were assessed for eligibility and randomly assigned in 1:1 ratio into the standard perioperative care group and adapted ERAS group. Patients with refractory shock, ASA class≥3, perforation of size≥1cm and having any concomitant definitive surgery were excluded. The adapted ERAS pathway was designed based on the components of the ERAS which could be applied in an emergency setting and aimed at multimodal opioid sparing analgesia, prevention of ileus, early

enteral nutrition, early removal of tubes and early mobilization. The primary outcome was the length of hospital stay. The secondary outcomes were time for first flatus, first defecation, time of withdrawal of tubes and time of starting liquid/solid diet, morbidity (post-operative complications) and mortality.

Results: A total of 102 patients were included in the study, 52 in the standard perioperative care group and 50 in the adapted ERAS group respectively. Among the 52 patients, three patients (ileal perforation, DU perforation≥1cm, sealed perforation) were excluded from the study after randomization as per exclusion criteria. The demographic and clinicopathological characteristics were similar in both the groups. There was a significant reduction in the time (days) for the removal of nasogastric tube (2.15±0.15; p<0.001, CI 1.85-2.45), urinary catheter (0.45±0.11; p<0.001, CI 0.23-0.67) and abdominal drain (3.66±0.35; p<0.001 CI 2.96-4.36) in adapted ERAS group when compared to standard care group. Patients in adapted ERAS pathway group had a significantly early functional recovery(days) when compared to standard care group for appearance of first bowel sounds (0.56±0.11; p<0.001 CI 0.33-0.78),passage of first flatus(1.47±0.18;p <0.001 CI 1.12-1.83), passage of first stool (2.25±0.20; p<0.001CI 0.18-2.67),time for resumption of fluid diet(2.72±0.38;p<0.001 CI 1.95-3.49) and resumption of solid diet(3.70±0.44; p<0.001 CI 2.82-4.59). Post-operative superficial surgical site infections were reduced in the ERAS group (5/50 vs.14/49, OR 0.28, p 0.02, CI 0.08-0.8), however, the leak rates from the omentopexy site were similar (1/50 vs. 2/49). There was no mortality encountered in the study. The length of hospitalization was significantly shorter than the standard care group (5.36 ±1.39 vs. 9.78± 4.30days; p<0.001, CI 3.14-5.68).

Conclusion: ERAS pathways, in a modified form are safe, tolerable and feasible for application in select patients undergoing simple closure of perforated peptic ulcer without an increase in the rate of complications.

PREVALENCE OF GASTROESOPHAGEAL REFLUX DISEASE (GERD) IN PATIENTS WITH BRONCHIAL ASTHMA.

Dr.KarthikPrakash,Dr.Sudarshan, Dr.ElaMurugan, JIPMER, Puducherry

INTRODUCTION :Gastroesophageal reflux disease (GERD) is one of the common gastro intestinal problem in surgical practice. Several studies have shown a close association between bronchial asthma and GERD. Data on prevalence of GERD in asthma patients in India are sparse.

AIMS AND OBJECTIVE: To study the prevalence of Gastroesophageal reflux disease (GERD) in patients with bronchial asthma.

METHODOLOGY :The study design was a case-control study. Adult bronchial asthma patients were included as cases. Age and gender matched controls were taken from non-asthmatic patients who attend pulmonary medicine OPD. GERD-Q questionnaire was used to assess the presence of GERD in both groups. GERD-Q score >8 was taken as presence of disease. Patients who had score >8 were subjected to upper GI endoscopy for documentation of GERD

RESULTS :A total of 80 bronchial asthma patients and 80 non-asthmatic controls were studied. On assessment for presence of reflux symptoms (heartburn and regurgitation) in both the groups, 52 patients (65%) in case and 29(36.5%) patients in control group had reflux symptoms. Heartburn was found to be the predominant reflux symptom in both the groups. 33 (41%) patients in the case group and 21 (26.25%) patients in control group had a total GERD-Q questionnaire score of more than 8. The difference in prevalence of GERD among the cases and controls were found to be statistically significant with a p value of 0.04, odds ratio of 1.9 (95% confidence limit - 1.008 - 3.878).

CONCLUSION :Based on our study we conclude that there is increased prevalence of gastroesophageal reflux symptoms and gastroesophageal reflux disease in bronchial asthma patients. Heart burn is the predominant reflux symptom in bronchial asthma patients with reflux symptoms.

CLASSIFYING THE GERD IN TO DIFFERENT SYMPTOM GROUPS AND UNDERSTANDING THE RELATION BETWEEN THE SYMPTOM COMPLEX CHARACTERS AND BASELINE DATA - AN OBSERVATIONAL STUDY

Dr.HarishGoutham M, Prof.Vikramkate

Junior Resident

Department of Surgery

JIPMER

Prof

Introduction:

GERD is a heterogenous symptom complex rather than a single entity with varying presentations in different geographic areas. Classifying the GERD in to different symptom groups and understanding the relation between the symptom complex characters and baseline data gives a better insight for diagnosis and management.

Methods:

It's an Observational single visit study. Data from 1050 patients attending to surgery and medicine out patient department with complaints of atleast one typical symptom(Heartburn/Regurgitation) with in one week of presentation were interviewed about their baseline data and symptomatology in detail. Patients with only atypical symptoms or with documented ulcer disease were excluded. Statistical analysis was done by performing a factor analysis with princilplecomponent to extract latent classes.And cluster analysis was carried out by using two step cluster. The significance between symptoms and baseline data, between the cluster formed and baseline data is calculated by chi square test.

Results:

There were 7 classes and 6 clusters formed in our study. 7 classes include the "Nocturnal group" ,"Thoracic complaints", "Respiratory complaints", "Typical group", "Dysphagia group", Regurgitation Group" and "Nausea group". Nocturnal symptoms have maximum significant association among

all classes and the nausea group with least association. In cluster analysis 6 clusters (With maximum of 265 patients anMinumum 62 in each cluster)were formed with different symptom complexes. Cluster with Maximum patients (cluster 4) is dominated by presence of day time typical symptoms along with nausea and eructation. And Nocturnal symptoms are found to be more in patients belonging to cluster with least patients (cluster 6).From baseline data it is found GERD is more prevalent in Urban population.andsymptoms like night time regurgitation, Sleepig difficulties and nausea werefound more in patients who consume alcohol . It was found that in relation with gender, the symptoms like night time regurgitation, breathlessness and atypical precordial pain were more common in the male gender where as nausea was in female gender.

Conclusions:

Presentation of GERD in our geographical region is distinctly different from the published literature from other regions of the world. Overall symptomatology was compared and was foud out that day time heartburn is found in all patients followed by day time regurgitation found in 63% patients with GERD. It was found out that nocturnal symptoms are the least common presenting symptoms in the GERD.The incidence of symptoms varies among the male and female population. Alcohol has no effect on the presentation but has effect on the symptomatology. Nighttime regurgitation and difficulty in falling asleep are found in patients who consume alcohol.Latent class and Cluster analysis can classify patients with symtoms of GERD. And Cluster analysis can be utilised to compare the variables with the baseline data. Further studies are required to assess the reproducibility of thisclassification,and also to find out the contribution of these classifications in the management and follow-up of the patients with GERD

A CASE OF MECKEL'S DIVERTICULUM PRESENTING AS APPENDICITIS IN A CHILD

PRESENTOR: **SUBITH P BHASKAR (PG)**

VINAYAKA MISSION MEDICAL COLLEGE,

KARAIKAL.

GUIDE: PROF.AMBUJAM,MS,FAES,FICS

10 Year old male child presented clinically with signs and symptoms of acute appendicitis and found to be a meckel's diverticulum with sub acute obstruction intra operatively .case details with intra operative pictures and intra operative findings will be presented as a poster on the day of CME

HIBERNOMA - A RARE BROWN FAT TUMOUR

Dr. SigharthSabuCherian, Dr. Nirmal Kumar, Dr. Jacob Jayakar

Dept. of Surgery, PIMS, Pondicherry

INTRODUCTION:

Hibernoma is a rare benign tumor of brown fat. It is also known as lipoma of brown adipose tissue, lipoma glandular and atypical lipoma. The hibernoma was first described by Merkelin 1906, who called it Pseudolipoma.

The name hibernoma is derived from its histological similarity to the brown fat of hibernating animals. They have been found in the neck, back, popliteal space, thighs, axilla, abdominal wall and the mediastinum. They may recur if not completely excised.

CASE STUDY:

We are presenting a 48 year old female, who presented to the Department of General Surgery with complaints of abdominal discomfort and on and off epigastric pain- radiating type of pain to the back and left shoulder. She had no other associated symptoms.

On further evaluation with a contrast enhanced CT, a mass was found arising from the tail of the pancreas which was also adherent to the spleen.

She was taken up for exploratory laparotomy. Intra operatively, there was a 7 x 4 cm sized mass which found to be arising from the tail of the pancreas and was densely adherent to the Splenic pedicle and the adjacent structures. The mass was variable in consistency. So, she underwent distal pancreatectomy with splenectomy.

The specimen was sent for biopsy, which confirmed it to be a 'Hibernoma".

USE OF VERESS NEEDLE AS A VERSATILE TOOL IN SILS CHOLECYSTECTOMY

Dr. Shraddha Shetty 09986717456

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Dr. Aashish R. Shah

Consultant, Department of GI and Minimal Access Surgery

Dr. Moksha Gowda, Associate Consultant, Department of GI and Minimal Access Surgery, Fortis Hospital, Bangalore

Introduction Single incision laparoscopic surgery (SILS) has gained momentum in the various fields of surgical practice. However, the procedure is ergonomically challenging due to coaxial placement of ports and loss of the Azimuth angle. A major impediment in SILS cholecystectomy is inadequate liver retraction.

The aim of this study was to evaluate the use of the Veress needle as a low cost and versatile tool in SILS cholecystectomy.

Materials and Methods An observational study was carried out at Fortis Hospital, BG Road, Bangalore from July 2014 to June 2016. Of the 73 SILS cholecystectomy carried out, 48 of the patients were women and 25 were men.

A Veress needle was used for liver retraction in 23 cases, through a stab incision (2 mm) in the subxiphoid region. Results Of the 23 cases for which the Veress needle was used as a liver retractor, 2 cases were converted to open cholecystectomy due to difficult Calot's triangle dissection.

With a 91% success rate, we have found that the Veress needle works satisfactorily as a liver retractor in SILS cholecystectomy with minimal postoperative scarring.

CARCINOID TUMOUR APPENDIX

Dr.Charumathy

II Year Resident

Dr.Sarathkumar, Asst. Professor

Prof.Radhakrishnan,

Meenakshi medical college, hospital and RI

38 yr old Female presented with complaints of colicky abdominal pain over RIF associated with nausea for 3 days. Patient gave history similar complaints 6 months back. Not associated with vomiting, fever, diarrhoea, dysuria, itching, salivation, lacrimation, flushing of face. No history of wheezing, palpitation or joint pain. No history of menstrual disturbances.

On examination there was tenderness in the RIF with no other abnormalities. USG abdomen - appendix was not visualised. CECT abdomen and thorax showed no significant abnormalities.

Patient was taken up for elective open appendicectomy, intra operatively appendix was found to be normal. HPE showed features suggestive of carcinoid tumor of appendix involving the the distal 1/3rd of the appendix.

Patient was followed up for about 8 months with no symptoms.

A PROSPECTIVE, RANDOMIZED, CONTROLLED TRIAL OF AUTOLOGOUS PLATELET-RICH PLASMA FOR THE TREATMENT OF DIABETIC FOOT ULCERS

Bella Lissy Ben,G Ambujam B Sankararaman Sam VivekGudisay

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Introduction: Non-healing diabetic foot ulcers are a common cause ofamputation. Emerging cellular therapies such as platelet-rich plasma provide ulcer management options to avoid loss of limb. The purpose of this prospective, randomized, controlled, blinded clinical study is to evaluate the safety and efficacy of autologous platelet-rich plasma for the treatment of non-healing diabetic foot ulcers.

Abstract: According to the american diabetes association, more than 60% of non traumatic lower-limb amputations occur in people with diabetes ;the rate of amputation for people with diabetes is 10 times higher than for people without diabetes.Plateletreleasates, including multiple growth factors, have been used to treat wounds since 1985.

Material and methods:

Source of data: All the patients admitted with diabetic foot ulcer in surgery wards in vinayaka missions medical college &hospital,karaikal.

Study design and methods :

This prospective, randomized, controlled,blinded trial was conducted after appropriate clearance from the ethical committee. Independent statistician was contracted to develop the statistical plan, and analyze the safety and effectiveness of data.

Inclusion criteria :

- Persons with type 1 or type 2 diabetes between the ages of 18 and 95 with an ulcer of at least 4 weeks' duration.
- Hemoglobin a1c < 8
- Foot ulcer located on the plantar, medial, or lateral aspect of the foot and wound area (length x width) measurement between 0.5 cm^2 and 5 cm^2.
- Post debridement,the ulcer should be free of necrotic debris, foreign bodies, sinus tracts , tunneling, and undermining; comprised of healthy vascularized tissue; and at least 4 cm from any additional wound.
- The limb should have adequate perfusion.

Exclusion criteria :

- Ulcer is due to non-diabetic etiology.
- Evidence of gangrene in ulcer or on any part of the foot.
- Patient is undergoing renal dialysis, has known immune insufficiency, known abnormal platelet activation disorders, liver disease, active cancer (except remote basal cell of the skin), malnutrition,hematologic, collagen vascular disease, rheumatic disease, or bleeding disorders
- Women of childbearing age excluding pregnant or lactating.

Prp preparation process:

- The prp separation system utilized in the study is a newer generation, point-of-care system for processing autologous platelets and plasma to be used for the treatment of nonhealing wounds.

- This system is comprised of two components: a small, portable centrifuge to separate whole blood into prp and a convenience kit that includes items for the blood draw, processing and prp application.
- The platelet-rich plasma is used to treat patients in the treatment group.
- Wounds in the control group are treated with a saline dressing.
- Either prp or saline dressing is applied to the prepared wound bed.
- The first step of the prp separation process includes performing a venipuncture to draw <20 ml of blood, depending on the wound size, from the patient.
- The blood is spun in a small, portable centrifuge for 1.5 minutes to separate the prp from the whole blood.
- The prp is extracted into a syringe where reagents were added to activate the platelets and plasma and injected into the wound edges.

Clinical evaluations and procedures :

- Wounds will be assessed and measured (length, width, and depth) using a metric tape measure at each visit.
- The measurements and other wound variables including undermining or tunneling, characteristics of wound exudates (ie, presence, color, amount, and odor), necrotic tissue, and granulation tissue documented.
- Care and management efforts provided at each treatment visit includes cleansing and assessing the wound and obtaining vital signs.

"LINGUAL THYROID WITH THYROTOXICOSIS IN A CHILD: A RAREPRESENTATION"

Bella Lissy Ben,G Ambujam , B Sankararaman ,Shigil Mathew Varghese
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Department Of General Surgery

ABSTRACT

Lingual thyroid is the most common presentation of ectopic thyroid tissue. It is a rare condition presents in about 1 in 100,000 populations. Commonly is seen in females.Very rare in children. It is mainly associated with euthyroid or hypothyroid status; Thyrotoxicosis is rarely seen. Its management varies from surgical excision to medical management.
Here, we present a case of lingual thyroid presenting with Thyrotoxicosis and its management.

INTRODUCTION
The thyroid gland appears as a proliferation of endodermal tissue in the midline of the floor of the pharynx, between the first and second branchial arches. It descends in front of the hyoid bone and laryngeal cartilages, and reaches its final position in front of the trachea by 7th week.Ectopic thyroid tissue (ETT) can occur anywhere in this tract of descent, lingual thyroid being the most common ectopic site of thyroid gland. It is mostly asymptomatic and commonly associated with hypothyroidism.
Thyrotoxicosis is rarely seen with lingual thyroid with only a few cases having been reported in literature. Here, we present a case of lingual thyroid in a child along with its management.

KEYWORDS: Children, Thyrotoxicosis , Lingual, Thyroid

CASE REPORT

An 11-year-old female presented to the outpatient department (OPD) with complains of dysphagia and hoarseness of voice since past 1 year. She had associated complaints of increased sweating, heat intolerance, weight loss and increased frequency of stools.

On general physical examination, the patient had a pulse rate of 110/min.

She had cold, moist palms. There was no associated palpable neck swelling. Oral examination revealed a fleshy mass in midline base of tongue with numerous congested vessels on the surface. The mass was firm, non-tender, and moved with tongue movements. Her thyroid function tests revealed raised serum free T3 and T4 levels, and decreased levels of thyroid stimulating hormone (TSH). The results were as follows: T3 5.8 pg/ml , T4-20 pg/ml and TSH-0.01 uIU/ml against normal values of 1.212 to 4.18 , 8.9 to 17.2 and 0.3 to 4.5 respectively suggesting thyrotoxicosis. Contrast enhanced computed tomography (CECT) scan of the neck showed a heterogeneously enhancing mass in the base of tongue over posterior one-third measuring 5.2 × 2.2 × 1.9 cm, causing luminal oropharyngeal narrowing.

Fine needle aspiration cytology (FNAC) from the swelling showed blood predominantly with fewclusters of normal thyroid follicular cells, consistent withlingual thyroid. Patient underwent a 99mTc thyroid scanthat revealed increased radiotracer uptake in the midline lingual region and nofunctioning thyroid tissue in theneck.

Patient was hence diagnosed as a case of lingual thyroid with thyrotoxicosis. In view of lingual thyroid being the only thyroid tissue and considering the age of the patient, the patient was started on tabletcarbimazole 15 mg once daily (OD) for 6 months. Three monthly follow-ups were done with thyroid function tests.

Patient had a significant decrease in the size of the lingual thyroid with relief in associated symptoms after 6 months of therapy. Treatment was continued till euthyroid status was attained, and a maintenance dose was continued for 1 year. No major side effects were noted with the antithyroid drug therapy. Patient has been following up for the last 1 year and is on a maintenance dose of carbimazole 5 mg OD without any evidence of an increase in size of the mass, or recurrence.

DISCUSSION

Lingual thyroid is a rare entity involving base of tongue and occurs in about 1:100000 individuals. It may or may not be associated with the presence of normal thyroid tissue in the pretracheal region. Apart from the base of tongue, ETT has also been reported in the mediastinum, pericardial sac, heart, breast, duodenum, mesentery of the small intestine and adrenal gland. Most cases of lingual thyroid are associated with hypothyroid or euthyroid status; only a few cases of lingual thyroid with thyrotoxicosis or Graves' disease have been reported in literature. Lingual thyroid has been reported less commonly in children, and all reported cases of pediatric lingual thyroid were seen to be associated with hypothyroidism.

Ours is a rare case report describing lingual thyroid with thyrotoxicosis in a pediatric patient, and its management. In children thyrotoxicosis is generally treated by antithyroid drugs as the first line of management. Response of antithyroid drugs in children has been variable, as reported in various studies. Surgery is considered the second line of management.Radioactive ablation is not preferred in children due to an associated risk of the delopment of radiation induced carcinomas. Block replacement therapy with methimazole and L-thyroxine has also been described with variable results.

Surgical excision of lingual thyroid is preferred in cases that are refractory to medical management. It is also indicated if the mass bleeds, produces

obstructive symptoms, or if malignancy is suspected. Various approaches for excision of lingual thyroid include: trans-oral approach, transmandibular-translingual approach, lateral pharyngotomy approach and suprahyoid midline approach.

CONCLUSION

Lingual thyroid with thyrotoxicosis is a rare entity, and it is even rarer in children. Initial treatment aims at attaining euthyroid status for the patient using medical management. Surgical excision and radioactive ablationusing iodine-131 are the other modalities for definite treatment.

ABDOMINAL ACTINOMYCOSIS- THE GREAT MASQUERADER

Authors

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Dr. ChetanAnand ,Assistant Professor, General Surgery,MGMCRI

Dr.Murugan , Assistant Professor,General Surgery ,MGMCRI

Abstract

Actinomycosis is a chronic suppurative granulomatous infectious disease caused by Actinomycesisraelii . Abdominal actinomycosis is a rare disease .It's varying presentations are usually considered to represent malignancy rather than an infective process, and is one of the most misdiagnosed diseases. We hereby report a case of abdominal actinomycosis in the department of general surgery, MGMCRI.50 year old male presented with pain central abdomen for past 1 month,non radiating, not associated with aggrevating/relieving factors.Imaging showed features suggestive of carcinoma jejunum with metastatic deposits/ lymphomatous deposits. Minilaparotomy and omental biopsy showed features of actinomycosis.Patient responded well with long course iv penicillin.

SPIGELIAN HERNIA

Presentor-Dr.D.MithunGovind
Guides- Prof.Dr.Ambujam M.S
Prof.Dr.Sankararaman M.S,
Vinyaka Missions Medical College, Karaikal

ABSTRACT:

A 36years old male presented with complaint of swelling over the anterior abdominal wall which increases on straining and while coughing.Case is known for its rare anatomical presentation;intra operative pictures and details with case study will be presented on the day of free poster presentation as a poster.

FACTORS HINDERING PRACTICE OF DAY CARE SURGERY IN A TERTIARY CARE CENTRE IN SOUTH INDIA- A PATIENT'S PERSPECTIVE

Dr.C.Vijayakumar, Dr.ElaMurugan, Dr.Jagdish

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Introduction: Day care surgery offers cost containment, effective usage of hospital beds, reduced incidence of nosocomial infection and early recovery in home environment. In developing countries like India, there are various factors that influence the success of day care surgery. This study analyses the patient acceptance factor of day care surgery.

Aim: To assess patient acceptance of early discharge after uncomplicated hernia surgery.

Methodology: All male patients with uncomplicated inguinal hernia who were admitted for elective surgery under Surgery unit I and who were found fit for discharge on post-op day 1 based on clinical fitness were included in the study. A questionnaire containing the patients' acceptance decision, VAS pain score and the reason for non-acceptance if any was used for assessment.

Results: Among the 89 patients who were fit for discharge on POD1, the decision for discharge was accepted by 57 patients. 32 patients were not satisfied of the decision for discharge on post-op day 1. The common reasons for dissatisfaction with the decision were persistent pain at operated site(13 patients), non-availability of health care resources in their locality(12 patients) and unwillingness to travel on post-op day 1 (4 patients)

Conclusion: A comprehensive and well presented pre-op counselling along with an effective primary health service would help in promoting day care surgery in developing countries.

AN UNUSUAL CAUSE OF SMALL BOWEL OBSTRUCTION - CASE REPORT

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INTRODUCTION: Small intestinal obstruction is a common surgical emergency. The common causes are adhesions, malignancies and hernias. We present a rare case of small intestinal obstruction caused by an enterolith in the distal ileum in a patient with an apparently normal gut.

CASE PRESENTATION: A 59 years male who underwent gastrojejunostomy 15 years back, presented with features of intestinal obstruction of 5 days duration. After initial conservative management, patient was taken up for laparotomy. An enterolith causing obstruction was found in the distal ileum which was crushed and milked into the colon. The patient made an uneventful recovery.

DISCUSSION: The chyme crossing the ileum is usually liquid or semi-solid and hence luminal obstruction by the faecal bolus in ileum is very unusual. In patients with previous gastric surgeries where the pylorus is bypassed, the solid food particles enter the small intestine and can form a bezoar. This patient was managed with laparotomy and milking of stool bolus into colon. Other treatment options include enterotomy or resection of diseased bowel and removal of the enterolith.

CONCLUSION: Small intestinal obstruction due to an enterolith is very rare and can pose a diagnostic challenge.

RARE CASE OF ANAL CANAL GAS GANGRENE IN A PATIENT WITH APLASTIC ANAEMIA

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INTRODUCTION: Gas gangrene is one of the most serious infections of traumatic and surgical wounds. The importance lies in the fact that, if not intervened at the right time, the condition is fatal.

Herein we report a patient with gas gangrene involving anal canal extending to the rectum, the first of its kind to be reported in literature.

CASE PRESENTATION: This 18 years lady, a patient of aplastic anaemia-immunodeficiency, developed gas gangrene of anal canal possibly due to faecal contamination of anal fissures. The patient was managed with surgical debridement and intravenous antibiotics.

DISCUSSION: The clinical manifestation of gas gangrene are due to the liberation of toxins by Clostridium perfringens. The infection spreads rapidly and results in necrosis and devitalisation of tissues, unless intervened surgically. Through literature search, we identified 2 reported cases of gas gangrene involving perineal region.

CONCLUSION: The clinical manifestations are more rapid and a high index of suspicion is needed for the diagnosis. A review of literature on pathogenesis, clinical manifestations, investigations and treatment of gas gangrene are presented.

LAPAROSCOPIC EXCISION OF LARGE LOWER RECTAL GIST – CASE REPORT

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INTRODUCTION: The acceptance of minimally invasive laparoscopic surgery in colorectal disease plays a pivotal role in improving the postoperative quality of life for those undergoing colorectal surgery.

Incidence of Rectal GIST is 0.1%.

Definitive treatment of Rectal GIST is not well established. GIST of lower rectum is usually managed with invasive or ablative surgery like APR.

CASE REPROT: We report a case of a large lower rectal tumor initially diagnosed as leiomyoma, who underwent laparoscopic excision of tumor through a subserosal approach whilst preserving the anal sphincter and without any Rectal resection. GIST was confirmed after IHC study.

Medical oncologist opinion sought and started on adjuvant Imatinib therapy.

As per our knowledge, we believe the present patient represents first case of a lower rectal large GIST treated by laparoscopic excision of GIST without compromising on sphincter activity and need for rectal resection.

While the primary objectives of complete tumor excision and preservation of sphincter integrity were met by the laparoscopic approach, the patient will need adjuvant chemotherapy and long term follow up is mandatory for optimal results.

OUTCOMES FOLLOWING MINIMALLY INVASIVE ESOPHAGECTOMY

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Approach for the treatment of carcinoma esophagus is multimodal, most importantly surgical. The use of minimally invasive techniques aims to reduce morbidity and mortality rates and has shown to significantly improve outcomes.

Objectives : To analyze the short term outcomes, post-operative morbidities and mortality, adequacy and completeness of oncological resection of minimally invasive esophagectomy (MIE).

Methods : 192 patients between January 2013 and December 2015, who underwent laparoscopic assisted transhiatal or thoracolaparoscopic esophagectomy were analyzed retrospectively. Perioperative outcomes were analysed. The primary endpoint studied was 30-day mortality.

Results :Perioperative mortality was 1.93 % (n= 3). Anastomotic leak rate was 4.51% (n =7). Morbidities like ARDS in 2 (1.29%), pneumonia in 7 pts (4.51%) , RLN paresis in 5 pts (3.22 %) , chylothorax in 2 pts (1.29%), conduit edge necrosis in 3pts (1.93%) and tracheal tear in 1 pt (0.64%) were recorded. The median number of lymph nodes resected was 13.96. Margins were positive in 6pts (3.87 %).

Conclusion : MIE in our centre resulted in acceptable lymph node resection, postoperative outcomes, and low morbidity and mortality. MIE can be performed safely, with good results in an experienced centre.

PEDUNCULATED MESENTERIC ILEAL LIPOMA CAUSING INTESTINAL OBSTRUCTION

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ABSTRACT:

Although lipoma is a common tumour found in almost all parts of the body, that occurring in the mesentry of the gut is a rarity. Literature search reveals less than 50 case reports of primary lipoma of the mesentry causing intestinal obstruction which is extremely rare.1,3 A 65 years old man presented with intestinal obstruction to our institution. Exploratory laparotomy revealed a strangulated lipoma in the mesenteric border of terminal ileum, omental adhesions forming a band, resulting in obstruction of the loop of small bowel. Primary mesenteric lipoma should be considered as a possible differential diagnosis in a patient with intestinal obstruction.


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