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HealthNews DIGEST

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Dr. Sherbaz Bichu

CEO & Specialist Anaesthetist
Aster Hospitals & Clinics, UAE

Welcome to our intriguing HealthNews Digest's 11th edition. It is an incredible milestone, and we are thrilled to have reached this point in our journey together. I want to express my sincere gratitude to the remarkable physicians whose knowledge and commitment have made this newsletter a reliable source. Your contributions continue to shape the healthcare landscape and inspire us all to strive for excellence.

Your unwavering pursuit of knowledge, constant drive to enhance your skills, and deep compassion for your patients have set you apart as an extraordinary healthcare professional.

Let's celebrate this accomplishment with sincere gratitude, renewed zeal, and an unwavering commitment to raising healthcare standards. And, as we move forward on this noble journey, I encourage you to keep pushing the boundaries of medical knowledge, continue challenging conventional practices, and remain steadfast in your commitment to providing the highest standard of care.

Dr. Ramanathan V

Medical Director
Aster Hospitals & Clinics, UAE

I warmly welcome you to the 11th edition of our HealthNews Digest and express my admiration and gratitude for the extraordinary cases our doctors have encountered and navigated with exceptional expertise and dedication. Your unwavering commitment to patient care and relentless pursuit of excellence have been remarkable.

You have demonstrated the ability to diagnose and treat rare conditions, carry out challenging surgical procedures, and offer creative solutions, pushing the boundaries of medical knowledge and paving the path for improved treatments and outcomes.

I want to express my profound appreciation for your commitment to lifelong learning and encourage you to continue sharing your experiences and knowledge to shape the future of healthcare and make a positive difference in the lives of those we serve. By fostering a culture of collaboration and continuous learning, we can collectively elevate the standards of care.

Dr Aby Madan
Urology (Specialist)

Dr Pavan Kumar Gorla
Gastro-Intestinal Surgery (Specialist)

Gross Pyonephrosis

Gross Pyonephrosis and Intestinal Malrotation treated successfully with Laparoscopic Nephrectomy, Open Ladd's Procedure and Resection Anastomosis at Aster Hospital, Mankhool

PRESENTATION

- 55 year old male
- Medical history of hypertension
- No family history of medical illness
- Admitted with:
  - Complaints of right flank pain for two months
  - Severe intermittent dull pain – 7-8/10
  - Complaints of abdominal distension, colicky pain with loud borborygmi in the central and lower abdomen, and constipation for 20 years
  - On liquid only diet for 6 months with accompanying weight loss
- Visited multiple hospitals for a solution and was offered open surgery with potential long ICU stay and prolonged recovery time. Malrotation was not even reported in the CT scans done outside

FINDINGS

During Examination:

- CT revealed staghorn calculi with thinned out renal parenchyma and massively distended collecting system of the right kidney
- MAG3 scan showed very poor function of the right kidney
- Grossly distended bowel segment in right iliac fossa
- Findings of malrotation with DJ flexure on right side with all small bowel loops on right side and caecum and ascending colon in midline and reversal of SMA and SMV positions were identified

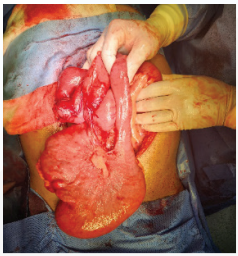
DURING PROCEDURE

- He was planned for Exploratory Laparoscopy Right Nephrectomy and Ladd's procedure plus resection anastomosis of dilated bowel segment.
- The area was prepped and draped in usual sterile manner.

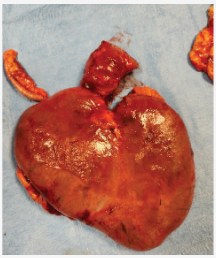
- Patient in left lateral decubitus position (right side up).
- Standard 5 port approach for Right Nephrectomy was made.
- Small bowel adherent to the parietes on the right side, entire large intestine was seen on the left side.
- The small bowel was mobilized, and the duodenum was kocherized to expose the right retroperitoneal contents within Gerota's fascia.
- The right kidney is grossly dilated with thinned out parenchyma - containing 500 mL turbid opalescent fluid.
- Dense peri-nephric adhesions due to longstanding Pyonephrosis – meticulous mobilization of the kidney continued.
- Hilar dissection was done on single renal artery and two veins.
- Renal pedicle and ureter were ligated and divided using Hemolock clips and entire right kidney was mobilized, and nephrectomy completed.
- Specimen was placed in a retrieval bag and retrieved through midline mini laparotomy made by the Gastroenterology team.

Patient was taken over by the surgical gastro team for further surgery of the intestinal pathology.

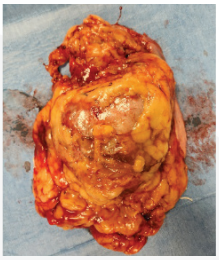
- Midline incision was given, and abdomen was opened in layers.
- Ladd's bands were dissected out and transected.
- Adhesiolysis of small bowel and large bowel was done.
- Duodenum kocherized completely and made to straight out.
- DJ flexure identified and small bowel loops kept on right side.
- Hugely dilated segment of bowel almost 8 cm in diameter (due to intermesenteric bands and kinking) resected with two 55 mm tri-layer blue load staplers and anastomosed functional end to end.
- Anastomosis was done in two layers using Prolene 3-0 and PDS 3-0.
- Mesenteric window was closed.
- Widening of small bowel mesentery was done.
- Appendectomy was done as part of Ladd's procedure.
- Cecum and ascending colon were placed in midline and small bowel loops on the right side.
- Lavage was done. And haemostasis was ensured.
- 16-french Romovac drain was placed in right renal fossa.
- Sheath was closed with PDS loop and skin was closed with staples.



Grossly Dilated Ileal Loop due to Intermesenteric Adhesions



Resected specimen of Obstructed Small Intestine Segment



Right Pyonephrosis

POST PROCEDURE

Since the entire surgery could be successfully completed under 4 hours and through a midline mini-laparotomy incision, the patient's post-operative recovery could be significantly shortened. He was extubated and shifted to ICU for monitoring and epidural infusion for pain. He was shifted to ward on POD2, and drain was removed on POD3. Oral liquids were started and gradually stepped up to semisolid diet. He made an uneventful recovery and was discharged on the 4th post-operative day. He was back to full activity in 3 weeks.

DISCUSSION

The highlight of the case is the expeditious use of laparoscopy in complex intra-abdominal surgery requiring multi-organ removal and bowel reconstruction, thus significantly reducing post-operative morbidity. Pyonephrosis is a rare pathology causing destruction of the renal parenchyma. Urolithiasis is the most common obstructive cause in at least 70% of patients. The diagnosis of Pyonephrosis was made on the basis of radiological images and bacteriological examination of the urine. Nephrectomy is generally indicated for a non-functioning kidney in long-term Pyonephrosis. Pyonephrosis following calculus disease results in dense peri-nephric and peri-ureteric adhesions which makes the nephrectomy particularly challenging and can result in significant collateral damage.

In this case, the addition of intestinal malrotation made the surgical field completely unfamiliar which adds to the complexity of the surgery. Intestinal malrotation occurs when the normal rotation of the embryonic gut is arrested or disturbed during in utero development. While most cases of intestinal malrotation present during the neonatal period or the first year of life, some present as older children, or adults. Because of its rarity, the diagnosis of intestinal malrotation in adult patients is often delayed and therefore associated with increased morbidity.

This patient was not diagnosed with malrotation even after getting CT scan at an outside centre. He was diagnosed only after reviewing CT films done for hydronephrosis. Approximately 88 percent of adults with intestinal malrotation present insidiously with one or more of the symptoms that usually occur during the postprandial period with Intermittent abdominal pain being the most common symptom (approximately 40 percent). Except in patients who have an acute clinical presentation, an upper gastrointestinal series, or a computed tomography (CT) scan with oral contrast should be performed to confirm the diagnosis.

Adult patients who have intestinal malrotation without volvulus are typically treated with an elective Ladd procedure. The Ladd procedure can be performed either open or laparoscopically, with most surgeons performing the open Ladd procedure because of its rarity in adult patients.

The five steps of a standard open/Lap Ladd procedure are:

- Assessment for volvulus
- Ladd band division
- Intermesenteric band division and widening of base of mesentery
- Appendectomy
- Placement of the bowel in the corrected position of nonrotation

Postoperative complications such as ileus and bowel obstruction are common in adults following surgery for malrotation. The devastating complications of midgut bowel necrosis and/or short bowel syndrome can only be minimized by the prompt recognition and surgical treatment of intestinal malrotation.

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Laparoscopic Cholecystectomy

Overview of Laparoscopic Cholecystectomy

Dr. Somanathan K
General Surgery (Specialist),
Aster Clinic, Al Muteena, Dubai

WHAT IS CHOLECYSTITIS?

Changes in bile concentration and composition caused by changes in diet, hormones, medications, or rapid weight/weight gain can result in the formation of solid bile gallstones (1). A small portion of people with gallstones experience occasional abdominal pain, nausea, and vomiting, often after meals (1). Gallstones do not need to be treated if they are not causing any problems (1). However, these gallstones can sometimes migrate out of the gallbladder, block the normal flow of bile, and lead to inflammation and infection of the gallbladder (1). This is known as cholecystitis and can cause sharp, constant abdominal pain, fever, nausea, and vomiting (1).

LAPAROSCOPIC CHOLECYSTECTOMY: ADVANTAGES OVER THE OPEN TECHNIQUE

Patients with severe cholecystitis are treated with surgical removal of the gallbladder, known as cholecystectomy (2). Laparoscopic cholecystectomy is a minimally invasive surgical procedure used for the removal of a diseased gallbladder and cholecystitis (2). This technique has essentially replaced the open technique for routine cholecystectomies (2). Laparoscopic cholecystectomy is currently the indicated treatment for acute or chronic cholecystitis, symptomatic cholelithiasis, biliary dyskinesia, acalculous cholecystitis, gallstone pancreatitis, and gallbladder masses or polyps (2).

The image below highlights a few advantages of laparoscopy compared to traditional open surgery:

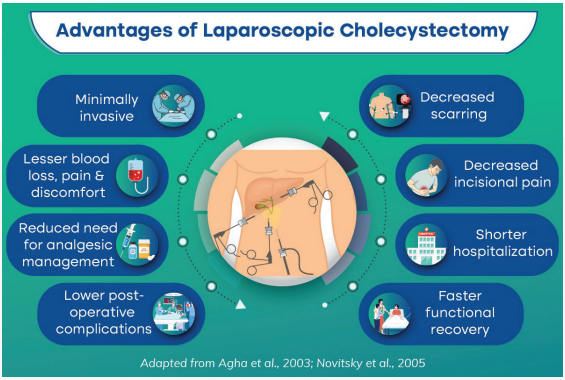

Figure 1: Advantages of laparoscopic cholecystectomy (3,4).

LAPAROSCOPIC CHOLECYSTECTOMY: AN OVERVIEW OF THE ROUTINE PROCESS

The process of Laparoscopic cholecystectomy begins after the patient is induced with anesthesia and intubated (2). Carbon dioxide is used to insufflate the abdomen to 15 mmHg, and four small incisions are made in the abdomen to place trocars (2). The gallbladder is then retracted over the liver using a camera and long instruments, which exposes the area of the hepatocystic triangle (2).

The critical view is achieved through careful dissection,

1. **Clearance of fibrous and fatty tissue from the hepatocystic triangle**
2. **The presence of only two tubular structures entering the base of the gallbladder**
3. **The separation of the lower third of the gall bladder from the liver to visualize the cystic plate**

Once the critical view is established, the surgeon isolates the cystic duct and cystic artery, both of which are clipped and transected (2). The gallbladder is then separated from the liver bed using electrocautery or harmonic scalpel (2). To avoid missing potential venous bleeding, the abdomen is allowed to deflate to 8 mmHg for two minutes before achieving hemostasis (2). The gallbladder is then removed from the abdomen using a specimen pouch, and all trocars are removed under direct visualization (2).

TYPES/MODIFICATIONS OF LAPAROSCOPIC CHOLECYSTECTOMY LC :

- **Reduced Port (size) Laparoscopic Cholecystectomy**
  The most common modification used is to reduce the size of epigastric trocar from 10 mm to 5 mm to reduce the pain and improve the cosmesis (5). This technique can be called "10-5-5-5" and can be performed for most LC (5). This requires bipolar coagulation of the cystic artery, 5 mm clip applicator for clipping of the cystic duct or ligation of cystic duct with a free silk suture and an additional double ligation with an endoloop after dividing the cystic duct especially for wide cystic duct needing double ligature (5). At the end of the procedure, the gall bladder is placed in an endobag and then 5 mm telescope is used from the epigastric port to extract the gallbladder from the umbilical port (5).

- **Reduced Port (number) Laparoscopic Cholecystectomy**
  In this technique, a 3 port LC is to use a suture for fundal traction (SF) (5). The traction suture can be inserted from the right lower chest wall with a straight needle inserted percutaneously or by a free thread inserted into the abdomen and withdrawn by a prolene loop inserted through a standard 18 G needle or an epidural needle (5). This is an excellent technique to perform a 3 port LC and this technique is labeled as "10-10-5-SF" (5). Other modification using smaller size trocars can be "10-5-3-SF" (5)
- **Single Site Laparoscopic Cholecystectomy (SSLC) or Trans-umbilical Single Site Surgery (TUSS)**
  For this technique, all ports are placed at single site; here it is practically in or around umbilicus (5). SSLC includes single skin and sheath incision or single skin and separate sheath incisions or separate skin and sheath incisions but at the same site (5). This can be achieved using a single skin and sheath incision; and one of the port devices such as SILS port (Covedien), Tri port or Quad port (Olympus) or X cone (Storz) through the single incision (5). However, this incision typically requires a larger skin incision (at least 20 mm) then that needed in standard LC (5).

- **Hybrid Laparoscopic Cholecystectomy**
  In hybrid technique three trocars are placed into the umbilicus whereas; one trocar which is the active dissection trocar is placed into the epigastrium lower down and more on the left side (5). This trocar is placed under direct vision of the first trocar and then the other two 5 mm trocars are also placed under direct vision with the telescope from this trocar (5).

- **Natural orifice transluminal endoscopic surgery (NOTES) Cholecystectomy**
  Various NOTES techniques which have been used are transvaginal, transgastric or transcolonic (5). In either of these techniques, at least one 3 mm or 5 mm port is placed in the umbilicus as an initial guide to puncture the peritoneum and at the end to assist in closure of the defect (5).The transvaginal technique uses a long angle telescope 45° or even a flexible endoscope (5). The umbilical trocar would also assist in retraction or dissection (5). The final extraction is through the vaginal port which then sutured (5).

  The transgastric and the transcolonic techniques are fraught with instrumentation issues in terms of access device and the closure devices (5). They use the flexible endoscope to perform the surgery with a double channel endoscope for at least two instruments (5).

Key Highlights

- Changes in bile concentration and composition caused by dietary, hormonal or medication changes among others can result in the formation of solid bile gallstones, potentially causing cholecystitis (1).
- Laparoscopic cholecystectomy is a minimally invasive surgical procedure used for the removal of a diseased gallbladder and cholecystitis (2).
- It has replaced open surgical cholecystectomy due to its many advantages such as its minimally invasive nature, reduced blood loss, faster recovery time among others (3,4).
- Apart from acute or chronic cholecystitis, laparoscopic cholecystectomy is currently also indicated for the treatment of symptomatic cholelithiasis, biliary dyskinesia, acalculous cholecystitis, gallstone pancreatitis, and treatment of gallbladder masses or polyps (2).

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Hidradenitis Suppurativa (HS)

Management of Bilateral Recurrent Hidradenitis Suppurativa (HS) by Latissimus Dorsi Myocutaneous Flap Cover at Aster Hospital, Al Qusais

Dr Rajkumar Ramachandran
Plastic Surgery (Specialist)

PRESENTATION

- 26 year old male
- Medical history of multiple episodes of recurrent infection with increased severity over bilateral axillary region for the last 2 years, settles with antibiotics and anti-inflammatory medicines but recurs
- Past history:
  - I&D done for abscess in the right axilla
  - Multiple similar episodes in the past

Referred to Aster as a case of chronic multiple and recurrent Hidradenitis Suppurativa involving bilateral axilla for further management.

FINDINGS

During Examination:

- Bilateral Stage 3 - Hidradenitis Suppurativa
- Multiple healed cicatrized scars over bilateral axillary region
- Pus discharge from right axilla

Pre-operative images of Right and Left Axilla

PROCEDURE

Patient underwent Debridement and flap cover of Bilateral Axillary Hidradenitis Suppurativa:

- Surgery started on the right side under general anaesthesia with the patient in the left lateral position with the elbow at 90 degrees and arm restrained in a position such that the axilla was exposed.
- Involved axillary skin was measured and infiltrated with adrenaline saline.
- Debridement of the diseased skin along with glands and cicatrized scar tissues was done until the layer of uninvolved fat was reached.
- Planning in reverse was done, and true defect size was obtained and copied over measuring paper.
- The cutaneous part of the flap was marked over the Latissimus Dorsi (LD) Muscle centering the Thoracodorsal Artery Perforator (TDAP) Flap which was marked with the help of a hand-held Doppler.
- Incision was made, and skin and subcutaneous tissue were incised according to the marking to reach the LD muscle.
- Flap was raised anteriorly, and the thoracodorsal pedicle was identified under the LD muscle; serratus anterior branches were identified, ligated, and divided.
- Surgery proceeded by anteriorly raising the entire LD muscle, followed by elevating the muscle from the base, preserving the blood supply to the skin paddle.
- The raised flap was rotated into the defect without tension and fixed to the axilla with sutures.
- 3-layer closure was done. Fascia and subcutaneous with 1-0 Vicryl, and skin with 3-0 Monocryl.
- Flap viability was confirmed, and the donor site was closed.
- Sterile dressing was done.
- Patient was shifted to the other side, and steps were repeated on the other side.

Myocutaneous LD flap marking

Post-operative image

POST PROCEDURE

The patient recovered well postoperatively. The patient was in stable condition at the time of discharge. Wound gaping was noted, which healed conservatively.

DISCUSSION

- According to literature, Hidradenitis disease is associated with obesity, acne, and hirsutism (i.e., androgen-related) but not directly related to diabetes
- Weight loss can help control symptoms
- Strongly linked with smoking
- 3:1 Female:Male ratio
- Most common organism - Staphylococcus aureus
- Peak incidence in the second and third decade

Non-surgical Management:

1. Oral clindamycin 300mg twice daily
2. Cyproterone Acetate (anti-androgen) improves symptoms in females
3. Acitretin 25 mg twice daily (retinoids reduce sebaceous gland activity)

Surgical Management:

Once the disease progress into chronic stage, it is unlikely to respond to medical management.

1. Incision and drainage of abscess formation
2. Excision of hair/gland-bearing skin prevents recurrence of the disease followed by –
    a. Healing by secondary intention (for small defects)
    b. Primary closure of minor defects
    c. Reconstruction of more significant defects – Split Skin Graft or Flap Reconstruction

Wide excision including a margin around hair-bearing skin, can be done, followed by reconstruction with either:

A. Split Skin Graft – Chances of Axillary Contracture in 33% of the cases
B. Flap Reconstruction – Technically demanding with less chances of scar contracture

In this case, Latissimus Dorsi Flap was preferred. It is a reliable workhorse flap option for defects in the axilla and breast regions. It is elevated based on the Thoracodorsal pedicle, a branch of the 3rd part of the axillary artery. The calibre of the vessel is around 1.5 to 2 mm. The entire muscle can be elevated along with the skin paddle, and the donor site can be primarily closed. Elevation of this muscle does not result in any significant motor disability. The most common complication encountered is wound gaping, but settles with conservative management, hematoma, seroma, and partial flap necrosis.

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Endoscopic Tympanoplasty for Tympanic Membrane Perforation

Beyond Traditional Approach – Minimally Invasive Endoscopic Tympanoplasty for Tympanic Membrane Perforation

Dr. Prashanth Matti Prabhu
ENT(Specialist)
Aster Hospital, Sharjah

Tympanic membrane perforation is characterized by a rupture in the tympanic membrane (TM), which creates a connection between the external auditory canal and the middle ear (1). It can occur at any age, although it is mainly observed in the younger population, and is associated with acute otitis media and hearing loss (1). Tympanoplasty is a surgical procedure developed to close perforations in the TM to prevent reinfection and restore hearing (2). However, repairing anterior perforations can be challenging during surgical procedures (3).

Traditionally, tympanoplasty has been conducted using a microscopic approach (4). Nevertheless, this conventional procedure may result in surgical scarring and significant postoperative pain (3). Recently, transcanal endoscopic approaches have become popular because of the smaller incisions and greater optical magnification (3).

In this article, we will provide an overview of endoscopic tympanoplasty for TM perforations, including the surgical technique, advantages, and outcomes.

HOW IS ENDOSCOPIC TYMPANOPLASTY PERFORMED?

Endoscopic tympanoplasty (ET), a minimally invasive surgical procedure is performed using a transcanal approach (2). Rigid endoscopes of 2.7 mm and 4 mm in diameter, 00 and 16-18 cm in length are used (2). An incision is made in the ear canal, allowing the tympanomeatal flap and annulus to be elevated, creating access to the middle ear (2). The malleus is peeled off the TM, and at this stage, the ossicular chain is repaired (ossiculoplasty) if required (2). The tragal cartilage graft and perichondrium are harvested and carefully placed medially to the TM remnant and lateral to the malleus (5). To complete the procedure, gel foam sponges are inserted into the middle and outer ear canals (2). The minimally invasive nature of this technique allows patients to be discharged on the day after the surgery (6).

HOW IS MICROSCOPIC TYMPANOPLASTY MT DIFFER FROM ENDOSCOPIC TYMPANOPLASTY (ET)

The endoscopic approach and the microscopic approach differ mainly in the broader field of view and variable magnification of middle ear structures, grafting material, the position of the graft in relation to the fibrous annulus and tympanic remnants, and treatment of middle ear folds and ventilation routes (4). Compared to MT, ET has the potential to eliminate the need for mastoid surgery by improving middle ear ventilation (5). Specifically, in cases of anterior perforations, the endoscope provides a better view of the perforation edges, which may aid in precise graft placement (4).

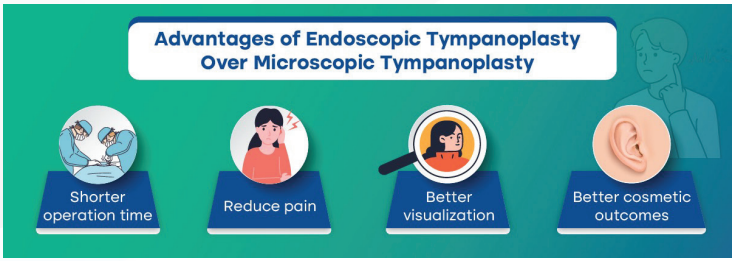
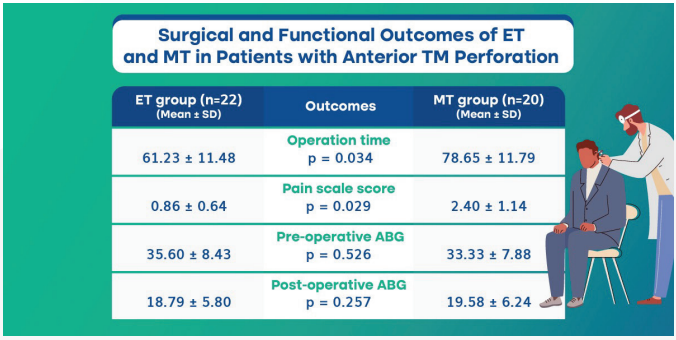


Figure 1: Advantages of endoscopic tympanoplasty (5,6,7).

EFFECTIVENESS OF ET FOR TM PERFORATIONS

Endoscopic repair of TM perforations is less invasive than traditional postauricular and endaural approaches (2). It provides a wider view of the middle ear anatomy without requiring external incisions, which can reduce operative and recovery time (2).

Investigating the benefits of ET over MT, a study conducted among 42 patients compared the surgical and functional outcomes of ET and MT in patients with anterior TM perforation (3). Throughout the study, the operation time, pain scale score, grafting success rate, and postoperative air-bone gap were assessed (Figure 2) (3).



ET group (n=22) (Mean ± SD)	Outcomes	MT group (n=20) (Mean ± SD)
61.23 ± 11.48	Operation time p = 0.034	78.65 ± 11.79
0.86 ± 0.64	Pain scale score p = 0.029	2.40 ± 1.14
35.60 ± 8.43	Pre-operative ABG p = 0.526	33.33 ± 7.88
18.79 ± 5.80	Post-operative ABG p = 0.257	19.58 ± 6.24

Figure 2: Effectiveness of endoscopic tympanoplasty compared to microscopic tympanoplasty for patients with tympanic membrane perforation (3). Abbreviations: ABG: air-bone gap

Overall, the result of this study demonstrated that ET is more beneficial for patients with anterior tympanic membrane perforations, helps minimize surgical trauma, and reduces operation time and postoperative pain (3).

In another study conducted by Choi et al., 2017 compared the outcome of ET and MT in seventy-three patients (7). Pure tone audiometric results, operation time, sequential postoperative pain scale, and graft success rate were assessed for patients in both groups (7). The results showed that the mean operation time for MT was longer (88.9±28.5 minutes) than for ET (68.2±22.1 minutes) with statistical significance (P=0.002) (7). However, there was no significant difference in graft success rates between the ET (100%) and MT (95.8%) groups (P=0.304) (7).

Furthermore, the pre- and post-operative audiometric results including bone and air conduction thresholds and air-bone gap were not significantly different between the groups (7). In both groups, the post-operative air-bone gap was significantly improved compared to the pre-operative air-bone gap (7). Although immediate post-operative pain was similar between the groups, pain 1 day after surgery was significantly less in the endoscopic group (7). Overall, with the endoscopic approach, minimal invasive tympanoplasty can be possible with a similar graft success rate and less pain compared to MT (7).

Key Highlights

- Endoscopic tympanoplasty is a minimally invasive surgical approach for tympanic membrane perforation (6).
- Endoscopic tympanoplasty provides a better surgical view with minimal incision, reduces post-operative pain, and has a shorter operation time compared with microscopic surgery (6).
- Clinical studies demonstrate minimal surgical trauma and reduced operation time and post-operative pain with endoscopic tympanoplasty compared to microscopic tympanoplasty in patients with tympanic membrane perforations (3).

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Tubo-Ovarian Abscess

A Rare Case of Bilateral Tubo-Ovarian Abscess with Early Pregnancy treated at Aster Hospital, Mankhool

Dr. Rethu C J
Obstetrics and Gynaecology (Specialist)

PRESENTATION

- 39 year old female
- No family history of medical illness

Admitted to Emergency Department with:

- Complaints of heavy bleeding per vaginum and abdominal pain
- Amenorrhoeic for 9 weeks
- Fever and loose stools for 1 week
- G4P3L3 with one normal delivery and caesarean sections in the past

FINDINGS

During Examination:

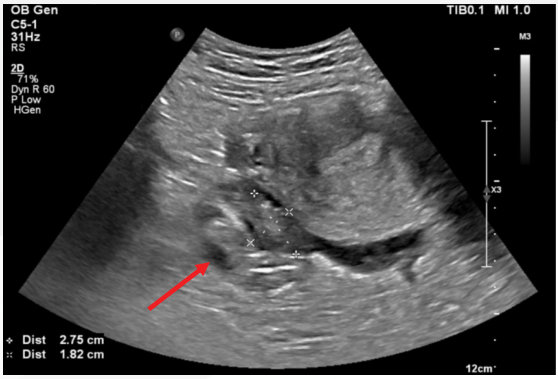
- Stable vitals
- Per Abdomen- presence of vertical scar of previous LSCS
- Lower abdomen was diffusely tender, guarding, and uterus felt adherent to anterior abdominal wall
- Per Speculum - bleeding through os
- Per Vaginum – bulky uterus, pulled up, non-mobile, tenderness in bilateral forniceal area

UPT was conducted in view of Amenorrhoea, it came positive and urgent ultrasound was done.

Ultrasound revealed:

- Endometrium was thickened with no evidence of intrauterine gestational sac.
- Heterogenous lesion in left adnexa with a well-defined cystic area within it.
- No fetal pole seen within - most likely Ectopic Gestation
- Moderate hemoperitoneum
- Edematous bowel loops noted in the left iliac fossa
- Bulky uterus with coarse myometrium - Adenomyosis

She was taken up for emergency laparoscopy in view of suspected Ruptured Ectopic Pregnancy.

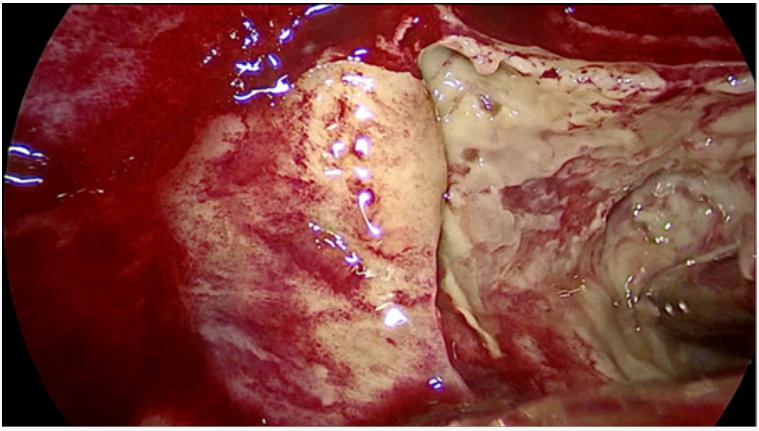


Uterus with Adnexal Lesion

DURING PROCEDURE

Intra-operative findings:

- Dense omental adhesions were made to the anterior abdominal wall, covering all pelvic area, and released.
- Gastrosurgeon was called in. Uterus was found to be adherent to anterior abdominal wall at the site of previous caesarean scar.
- Bilateral tubo-ovarian abscess was seen with collection of pus in the iliac fossa.
- Left tubo-ovarian complex was densely adherent to sigmoid and right tubo-ovarian complex was densely adherent to Pouch of Douglas (POD).
- Thorough lavage was done.
- And drain was kept in situ.



Left Iliac Fossa

DIAGNOSIS

During the surgery, a diagnosis of bilateral tubo-ovarian abscess with early pregnancy was made.

POST PROCEDURE

The patient was started on IV antibiotics. The patient's admission beta hCG was 704.60 mIU/mL. The drain was removed on post-operative day 2. 48 hours later, beta hCG came down to 240.00 mIU/mL.

The patient was discharged in a stable condition with oral antibiotics on post-operative day 3. On follow-up after 10 days, the patient was symptomatically better with beta hCG levels at 22.73 mIU/mL.

DISCUSSION

A Tubo-Ovarian Abscess (TOA) is a complex infectious mass of the adnexa that forms as a sequela of pelvic inflammatory disease. Pathogens from the cervical or vaginal infection ascend first to the endometrium and then travel through the fallopian tubes into the peritoneal cavity, forming a walled-off mass. The majority of cases have an associated peritonitis.

TOAs can arise from the extension of an infected adjacent organ, most commonly the appendix, less commonly, hematogenous spread from a distant nidus of infection, or as an association with pelvic organ cancer (1,3). Classically, a TOA manifests with an adnexal mass, fever, elevated white blood cell count, lower abdominal-pelvic pain, and/or vaginal discharge; however, presentations of this disease can be highly variable. Should the abscess rupture, life-threatening sepsis can result; thus, any clinical concern for this diagnosis requires prompt evaluation and treatment (1,2).

Pelvic inflammatory disease is extremely rare during pregnancy. Both differential diagnosis and management of tubo-ovarian abscesses in pregnancy are challenging and associated with poor obstetric outcomes (4). One of the main differential diagnoses is ectopic pregnancy, which may also present as low abdominal pain, adnexal mass, and free pelvic fluid. Pregnancy and PID are rare to co-occur, and there is no estimated prevalence of this disease during pregnancy in the literature (5). The mainstay of treatment remains IV antibiotics.

There is little information on which medications to use to treat PID during pregnancy due to the rarity of these entities during this period (6). Both tubo-ovarian abscess and its treatment may be harmful to an ongoing pregnancy. Due to the paucity of data, there is still no consensus on which antibiotics to use in pregnant women with pelvic inflammatory disease, so treatment must be individualized, trying to use efficient medication with the least potential teratogenicity.

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