

Diverse Introspection of Gynecological Emergencies: Case Series

Shruti A Panchbudhe¹, Sumedha S Pathade², Prasad Deshmukh³, Aditya Rajiv Nimbkar⁴, Arun Nayak⁵

Received on: 20 June 2022; Accepted on: 03 August 2022; Published on: 16 November 2022

ABSTRACT

Aim: Acute abdomen constitutes 5–10% of all emergency department visits and is the leading cause of hospital admissions. The clinical scenario of two patients with the same underlying pathology may look different or similar with the disease entities very distinct.

Background: Diagnosis of acute abdomen requires meticulous history taking, a thorough evaluation of symptoms, evaluation, and prudent use of investigations to specify the disease and management which many times could be surgery. Accurate knowledge is essential for appropriate and timely decisions. The clinical presentation included pain in the abdomen (16.6%), pain in the abdomen and vomiting (44.4%), pain in the abdomen in shock (39%), and abdominal tenderness (33.3%).

Discussion: Retrospective study conducted in a tertiary care center after ethical committee approval. The term acute abdomen refers to any serious acute intra-abdominal condition accompanied by pain, tenderness, and muscular rigidity, for which emergency surgery should be contemplated. It is often indicative of a clinical course of abdominal symptoms that can range from minutes to hours to weeks and is commonly used synonymously for a condition that requires immediate surgical intervention.

Conclusion: Diagnosis of pelvic pain in women can be challenging because many symptoms and signs are insensitive and non-specific. As the first priority, urgent life-threatening conditions (e.g., ectopic pregnancy, appendicitis, and ruptured ovarian cyst) and fertility-threatening conditions (e.g., pelvic inflammatory disease, and ovarian torsion) must be considered.

Clinical significance: A good clinical acumen along with diagnostic intervention aids in diagnosing acute abdomen aptly.

Keywords: Acute abdomen, Clinical acumen, Ectopic pregnancy, Ultrasonography.

Journal of South Asian Federation of Obstetrics and Gynaecology (2022): 10.5005/jp-journals-10006-2116

INTRODUCTION

Acute abdomen is a term used to encompass a spectrum of surgical, medical, and gynecological conditions which range from trivial to life-threatening conditions requiring hospital admission. Acute abdomen has a sudden onset, can persist for several hours to days, and is associated with a wide variety of clinical features specific to the underlying condition or disease.¹

MATERIALS AND METHODS

We did a retrospective study after taking ethical committee's approval. We aimed to give an overview of the causes of acute abdomen in gynecology with special attention to the clinical presentation and diagnostic dilemma of five cases.

Case 1: Ovarian Torsion

A 38-years old P2L2 presented to the emergency with pain in lower the abdomen and multiple episodes of vomiting for 24 hours. General examination was normal except for tachycardia (110/minute). On abdominal examination, a palpable mass of about 15 cm × 15 cm was arising from the pelvis, cystic, and non-mobile with tenderness in the left iliac fossa and hypochondrium. Vaginal examination confirmed the findings with no cervical motion tenderness. Routine investigations were normal. Ultrasonography confirmed the presence of a left-sided ovarian cyst of 20 cm × 18 cm × 14 cm with preserved pedicle vascularity. Exploratory laparotomy was performed given the clinical diagnosis of suspected ovarian torsion. Intraoperatively, an unruptured left hemorrhagic ovarian cyst of 20 cm × 16 cm × 12 cm was present with torsion of 2½ turn over the

^{1–5}Department of Obstetrics and Gynaecology, Lokmanya Tilak Municipal Medical College and General Hospital, Mumbai, Maharashtra, India

Corresponding Author: Shruti A Panchbudhe, Department of Obstetrics and Gynaecology, Lokmanya Tilak Municipal Medical College and General Hospital, Mumbai, Maharashtra, India, Phone: +91 9324670237, e-mail: drshruti3@gmail.com

How to cite this article: Panchbudhe SA, Pathade SS, Deshmukh P, et al. Diverse Introspection of Gynecological Emergencies: Case Series. *J South Asian Feder Obst Gynae* 2022;14(5):574–578.

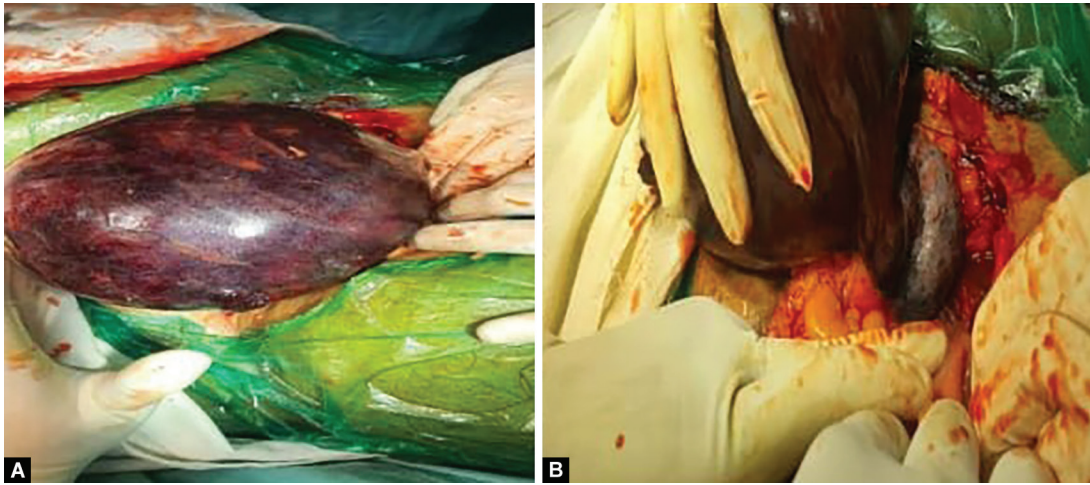
Source of support: Nil

Conflict of interest: None

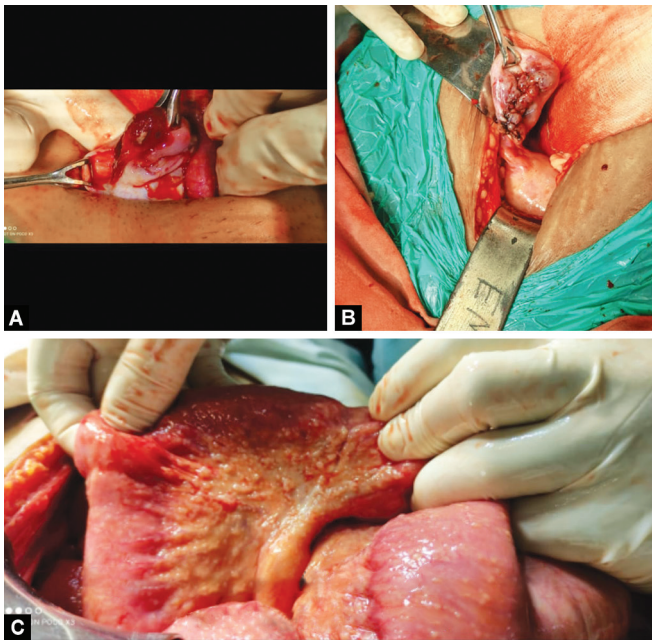
fallopian tube, and vascularity of the left ovary and salpinx was impeded. Left-sided salpingo-oophorectomy was performed. She had an uneventful recovery postoperatively. Histopathological examination revealed a unilocular cyst lined by ciliated pseudostratified columnar epithelium with focal papillae which lacked atypia, architectural complexity, or invasion features suggestive of serous cystadenoma. [Figure 1](#) shows torsion of the left-sided ovarian cyst.

Case 2: Ruptured Corpus Luteal Cyst with Coexistent Abdominal Koch's

A 19-year-old unmarried nulligravida came with pain in the abdomen with six episodes of vomiting. The general examination was normal; however, the abdominal examination showed right side rebound tenderness with guarding in right iliac region. On



Figs 1A and B: Ovarian torsion



Figs 2A to C: Ruptured corpus luteal cyst with ovarian reconstruction with omental tubercles

per rectal examination, there was fullness in the pouch of Douglas. Routine investigations were normal. Ultrasonography revealed a ruptured right-side ovarian cyst of 5 cm × 6 cm, with internal echoes in the pelvis with mild-to-moderate hemoperitoneum. Exploratory laparotomy performed showed a right-sided ruptured cyst of 5 cm × 4 cm × 3 cm with 200 cc of hemoperitoneum. Hemostatic stitches were taken with polyglactin 1-0 at the site of bleeding. Tubercles were studded on the intestines, biopsied, and adhesiolysis was performed by surgeons due to dense adhesions between the bowel loops and omentum. Histopathology revealed a ruptured right corpus luteal cyst with Abdominal Koch's and category 1 anti koch's treatment (AKT) was started. Figure 2 depicts rupture of corpus luteal cyst which was sutured with polygalactin No. 2-0, and tubercles on omentum.

Case 3: Pelvic Inflammatory Disease

A 45-year-old P4L4 came to the emergency surgical department with complaints of pain in the abdomen, vomiting, and

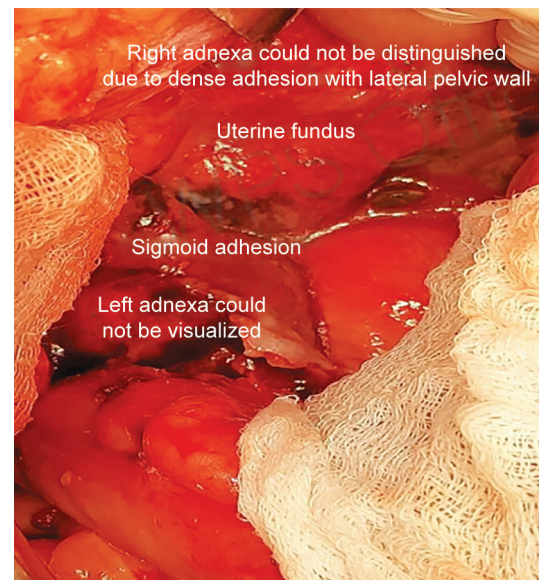


Fig 3: Pelvic inflammatory disease

constipation for 3 weeks, aggravated over 24 hours. She had diabetes mellitus for 10 years, on treatment, however, sugars were not controlled. Routine investigations were normal except for leukocytosis (16000 Cu/mm), deranged sugars (random blood sugar 304 mg/dL), and HbA1C of 10.5%. Computerized tomography abdomen revealed features of appendicitis with pelvic inflammatory disease (PID) with a pelvic collection of 20–30 cc. Exploratory laparotomy was performed with a vertical midline incision for suspected appendix perforation. Intraoperatively pus flakes were scattered all over the pelvic and abdominal organs and a collection of 20-cc pus in the pelvis. The sigmoid colon was adherent to the fundus of the uterus with features of a frozen pelvis and normal appendix. Pus was drained and sent for culture and sensitivity. Saline wash was given and an intraabdominal drain was kept. Postoperatively, she was shifted to the HDU and kept on higher antibiotics and Insulin. Culture sensitivity showed chlamydia and injection doxycycline 100 mg 12 hourly was given for 14 days. Figure 3 depicts adhesions on the fundus of the uterus and bilaterally adnexa was not well visualized due to dense adhesions.

Case 4: Isolated Torsion of the Fallopian Tube with Terminal Hydrosalpinx

A 25-year-old nulligravida married for 3 years came to the OPD with complaints of acute pain in the hypogastrium for 10 days. She was a case of primary infertility and also wanted to get investigated for the same. On abdominal examination, there was tenderness in the hypogastric area. On per vaginal examination, there was fullness in the right fornix with marked tenderness. Ultrasonography of the pelvis revealed normal size uterus with a right ovarian cyst of 10 cm × 10 cm with vascularity of the right pedicle preserved. Exploratory laparotomy showed a large right-sided hydrosalpinx of 8 cm × 8 cm with fimbria pouting at one end and distended. The left-sided tube was dilated with terminal hydrosalpinx of 3 cm × 2 cm. Right-sided excision of hydrosalpinx was performed after explaining the intraoperative findings to the patient's relatives and the specimen was sent for histopathological examination. Histopathology gave the diagnosis of tuberculosis. The patient was started on category 1 AKT. [Figure 4](#) shows features of dilated fallopian tube which had torsion.

Case 5: Ruptured Tubal Ectopic Pregnancy

A 40-year-old P2L2 MTP1 with mini-laparotomy tubal ligation done 12 years back presented to emergency with pain in abdomen in the right iliac fossa and bleeding per vaginum. On general examination, she had severe pallor, a pulse of 128/minute, and

Table 1: Causes of acute abdomen

Gynecological causes of acute abdomen

- Ruptured ovarian cysts
- Mittelschmerz (midcycle pain occurring with ovulation)
- Endometriosis
- Ovarian torsion
- Ectopic pregnancy
- PID

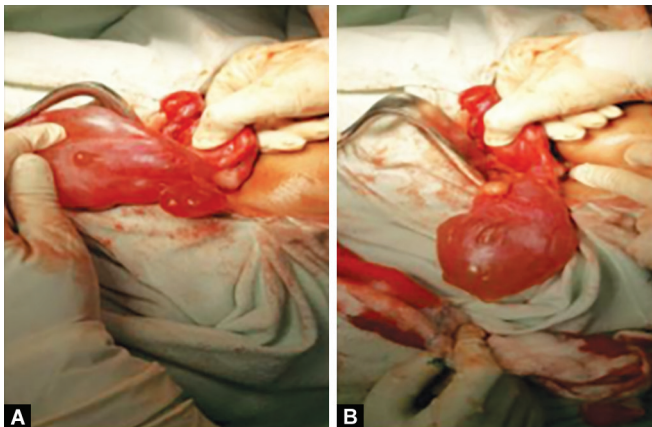
blood pressure of 80/60 mm Hg. On per abdomen examination there was right-sided rebound tenderness and guarding. On per vaginal examination, there was fullness in the pouch of Douglas and right-sided fornical fullness and tenderness. The urinary pregnancy test was positive. Routine investigations revealed hemoglobin of 4 gm%. Immediate resuscitative measures were taken. Three pint packed red cells were transfused. Exploratory laparotomy was performed. Intraoperatively, there was right-sided ruptured tubal ectopic pregnancy with hemoperitoneum of 1 L and clots measuring 200 gm. Right-sided salpingectomy was performed and the other tube had features of previous surgery. The postoperative period was uneventful. Histopathological examination confirmed the diagnosis. [Figure 5](#) shows right-sided ruptured tubal ectopic pregnancy.

DISCUSSION

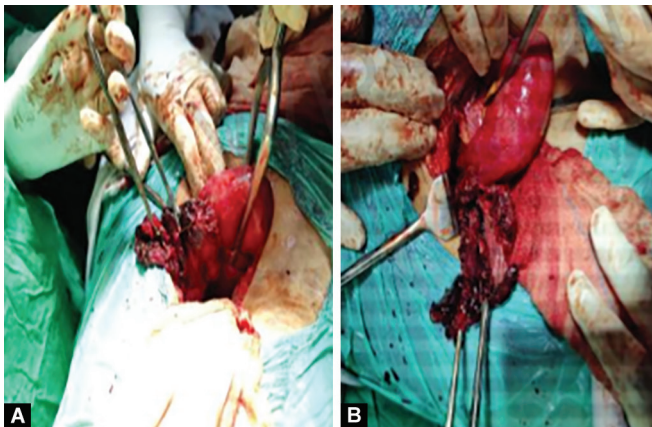
Acute abdomen causes are endless, the presentation of two patients with the same underlying pathology may look totally different or they may be similar even though the disease entities are distinct. The preliminary approach to acute abdomen should be to rule out life-threatening causes and to differentiate between gynecological and non-gynecological diseases. Despite its common occurrence, it is challenging to manage, as the diagnosis is not possible in an appreciable number of patients. Management of gynecological emergencies is done by a team of general surgeons with gynecological colleagues.

Gynecologic causes of acute abdomens include ruptured ovarian cysts, mittelschmerz (midcycle pain occurring with ovulation), endometriosis, ovarian torsion, ectopic pregnancy, and PID. Causes of Acute abdomen are given in [Table 1](#). All female patients of reproductive age should undergo pregnancy testing to rule out ectopic pregnancy along with routine blood tests and measurement of inflammation markers such as ESR and CRP in selected cases. The preliminary radiological investigations include abdominal ultrasound should be performed which gives information about the presence of free abdominal fluid, free air, intestinal obstruction, parenchymal pathologies, appendicular and gynecological pathologies, and vascular diseases. Transvaginal ultrasound is a relatively simple and inexpensive diagnostic test that can complement the classic abdominal ultrasonography if required.² Computer tomography (CT) with contrast medium is required if the non-specific clinical presentation and non-diagnostic. An accurate diagnosis of acute abdomen is often established retrospectively following the surgical intervention in certain cases, despite advancements in diagnostic accuracy with currently available imaging modalities.

[Table 2](#) explains the approach to acute abdomen. The cases described in this series are discussed below.



Figs 4A and B: Isolated torsion of fallopian tube



Figs 5A and B: Ruptured ectopic pregnancy

Table 2: Approach to acute abdomen

<i>History, physical examination, and pregnancy test</i>		
Pregnant?	Yes	Evaluate for ectopic pregnancy with quantitative β -subunit of human chorionic gonadotropin test and transvaginal ultrasonography
No		
Right lower quadrant abdominal pain or pain migration from periumbilical area to right lower quadrant of abdomen?	Yes	Consider surgical consultation and laparotomy for appendicitis; if diagnosis in doubt, consider ultrasonography or abdominal and pelvic CT with intravenous contrast media
No		
Cervical motion, uterine, or adnexal tenderness?	Yes	Consider pelvic inflammatory disease; obtain transvaginal ultrasonography to evaluate for tubo-ovarian abscess
No		
Pelvic mass on examination?	Yes	Consider ovarian cyst, ovarian torsion, degenerating uterine fibroid, or endometriosis; obtain transvaginal ultrasonography
No		
Dysuria and white blood cells on urinalysis?	Yes	Evaluate for urinary tract infection or pyelonephritis; obtain urine culture
No		
Gross or microscopic hematuria?	Yes	Hematuria may be secondary to vaginal bleeding; consider kidney stone and stone protocol CT
No		
Consider transvaginal ultrasonography to evaluate for other diagnoses from Table 2		

Adnexal Torsion

Various pathological diseases of the ovary and fallopian tube cause their enlargement and make the adnexa susceptible to twisting upon the axis of the infundibulopelvic ligament leading to infarction of the tube and ovary which is a gynecological emergency. Ovarian tumors of size 10–12 cm, solid tumors, and slow-growing heavy tumors with long pedicles are conducive to torsion on change of position. Patient presents with acute severe pain which is proportional to the degree of venous impairment, lateralized to the right or left lower quadrant of the abdomen associated with nausea and vomiting. Low-grade fever and leukocytosis may occur and high grade may ensue if necrosis and infection of the twisted organ occur. Adnexal torsion was treated with salpingo-oophorectomy of the involved side in the earlier days however current trends include conservative management by unwinding of the adnexa, assessing its viability and preservation. Initially, unwinding the torsion was denounced due to the fear of releasing potentially fatal embolus; however, several authors have noticed no embolic complications in their series of studies.

Hemorrhagic Functional Ovarian Cyst

Follicular and corpus luteum cysts of the ovary are functional cysts and benign growths of the ovary. These cysts should not cause pain unless it is accompanied by rupture, torsion, or hemorrhage. Rupture of a follicular cyst causes short-lived acute pain. Corpus luteal cysts are very vascular and life-threatening hemorrhage may ensue if they rupture, the diagnosis is often confused with ruptured ectopic. Severe hemorrhage may produce abdominal distension, shock, and emergency laparotomy is indicated when the patient is hemodynamically unstable and laparoscopy is appropriate if the patient is hemodynamically stable.

Pelvic Inflammatory Disease and Tubo-Ovarian Abscess

Pelvic inflammatory disease comprises a spectrum of diseases that include salpingitis, endometritis, and tubo-ovarian sepsis. Acute appendicitis is a common differential diagnosis, however, the pain is lower intense than in appendicitis and is bilateral. A history of vaginal discharge, dysmenorrhea, and burning pain on micturition is a helpful differential diagnostic point and physical findings include cervical and forniceal tenderness on vaginal examination. Nucleic acid amplification tests (NAATs) may be required to detect chlamydia and gonorrhea.³ Medical therapy with or without drainage procedure is the acceptable form of management to preserve fertility but in presence of evidence of rupture of tubo-ovarian abscess immediate surgical intervention is recommended.

Isolated Fallopian Tube Torsion

Isolated Fallopian Tube Torsion (IFTT) is an uncommon cause of lower abdominal pain and only a handful of cases have been reported in the literature. The exact mechanism that leads to IFTT without involving the ipsilateral ovary is not clear. Various predisposing factors implicated include intrinsic factors related to the tubal anatomy and pathophysiology (e.g., PID, pathology in tubes such as hematosalpinx or hydrosalpinx, tortuous tubes, paratubal cysts, or neoplasm) and extrinsic factors (e.g., adhesions, pelvic congestion, ovarian and uterine masses, and drug-related spasms). The diagnosis of IFTT requires a high index of suspicion due to its rarity and non-specific presentation, but it should be considered as a differential diagnosis of acute pain after excluding common causes. Imaging techniques might not be conclusive in reaching a diagnosis and surgical management remains the gold standard for definitive diagnosis and management.

Ectopic Pregnancy

Ectopic pregnancy is the commonest differential diagnosis of acute abdomen and is a life-threatening emergency leading to maternal morbidity and mortality.⁴ Incidence of ectopic pregnancies has been increasing in the last two to three decades with a reduction in mortality due to the advent of newer and better diagnostic techniques and early diagnosis. Various risk factors have been identified for ectopic pregnancies, namely, pelvic inflammatory disease, previous pelvic surgery, previous ectopic pregnancy, intrauterine device usage, induction of ovulation, smoking, etc.

CONCLUSION

Diagnosis of pelvic pain in women can be challenging because many symptoms and signs are insensitive and non-specific. As the first priority, urgent life-threatening conditions (e.g., ectopic pregnancy, appendicitis, and ruptured ovarian cyst) and fertility-threatening

conditions (e.g., pelvic inflammatory disease, and ovarian torsion) must be considered.

REFERENCES

1. Al-Shukri M, Mathew M, Al-Ghafri W, et al. A clinicopathological study of women with adnexal masses presenting with acute symptoms. *Ann Med Health Sci Res* 2014;4(2):286–288. DOI: 10.4103/2141-9248.129067.
2. Shang RM, Kong MG, Xu XW. Application value of transabdominal ultrasound combined with transvaginal ultrasound in the diagnosis of gynecological acute abdomen. *Chin J Clin Ration Drug Use* 2020;13(28):167–168. DOI: 10.1155/2021/9508838.
3. Cook RL, Hutchison SL, Østergaard L, et al. Systematic review: non invasive testing for *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. *Ann Intern Med* 2005;142(11):914–925. DOI: 10.7326/0003-4819-142-11-200506070-00010.
4. Lawani LO, Anozie OB, Ezeonu PO. Ectopic pregnancy: A life-threatening gynecological emergency. *Int J Wom Health* 2013;5:515–521. DOI: 10.2147/IJWH.S49672.