



E-ISSN: 2706-9575  
P-ISSN: 2706-9567  
IJARM 2020; 2(2): 152-156  
Received: 14-05-2020  
Accepted: 22-06-2020

**Rawaa Abdulraheem Hasan**  
Ministry of Health, Baghdad  
Medical office, Al-Russafa,  
Fatima Al-Zahraa Maternity  
Hospital for Women and  
Children, Baghdad, Iraq

**Zainab Naj Hashim**  
Ministry of Health, Baghdad  
Medical office, Al-Russafa,  
Fatima Al-Zahraa Maternity  
Hospital for Women and  
Children, Baghdad, Iraq

**Sana Abd Al Hadi Abed**  
Ministry of Health, Baghdad  
Medical office, Al-Russafa,  
Fatima Al-Zahraa Maternity  
Hospital for Women and  
Children, Baghdad, Iraq

**Corresponding Author:**  
**Rawaa Abdulraheem Hasan**  
Ministry of Health, Baghdad  
Medical office, Al-Russafa,  
Fatima Al-Zahraa Maternity  
Hospital for Women and  
Children, Baghdad, Iraq

## Abdominal-pelvic pain in gynecology

**Rawaa Abdulraheem Hasan, Zainab Naj Hashim and Sana Abd Al Hadi Abed**

**DOI:** <https://doi.org/10.22271/27069567.2020.v2.i2c.60>

### Abstract

Abdominal-pelvic pain is a complex entity, sometimes difficult to diagnose, which requires a thorough analysis to determine its causes and the most appropriate treatment. It involves various viscera, so frequently the approach must be multidisciplinary and sometimes requires rapid action since the life of the patient is at stake only the causes of gynecological origin have been exposed in this work as we understand that the rest of the pathologies correspond to explain them to other specialties. A table of differential diagnosis is presented between the most frequent causes of pelvic pain of gynecological origin.

**Keywords:** Pelvic pain, Ovarian torsion, Ectopic pregnancy, Pelvic inflammatory disease, Endometriosis

### Introduction

Acute abdominopelvic pain is one of the most frequent causes of gynecological consultation and the most frequent cause of hospitalization.

The most important initial assessment to be performed is to determine if it is an acute surgical abdomen and if it requires immediate hospitalization. It is important to rule out pregnancy when starting the evaluation of the patient (consider the possibility of a ruptured ectopic pregnancy, which can become life-threatening).

Among the possible diagnoses are: ectopic pregnancy, torsion of an ovarian cyst (the importance of its early diagnosis lies in a rapid intervention to preserve the ovary and the tube), dysmenorrhea, endometriosis and fibroids.

Timely diagnosis of acute pelvic pain is critically important because delay could increase morbidity and mortality. The accurate history is key to establishing the correct diagnosis. It is necessary to verify the date and character of the last two menstrual periods and the presence of bleeding or abnormal discharge.

### Acute pelvic pain

The onset, character, location and pattern of radiation of pain must be taken into account and correlated with changes (urination, defecation, intercourse, physical activity), the regularity of menstrual periods, the possibility of pregnancy, the presence of vaginal bleeding or discharge, medical and surgical history. A recent history of dyspareunia or dysmenorrhea is suggestive of pelvic pathology. The most common causes of acute pelvic pain in women include: pelvic inflammatory disease (PID), adnexal masses or cysts with torsion, rupture or bleeding, ectopic pregnancy, endometritis or myoma degeneration, infarction or torsion.

When presenting with a woman with an abdominopelvic pain, the most important initial evaluation is to determine whether it is an acute surgical abdomen. The next two considerations are to find out if you are pregnant, (consider the possibility of ectopic pregnancy) and if requires immediate hospitalization. A rapid evaluation should be done to identify patients who require urgent surgical intervention, including history, if possible, and physical examination, including pelvic exam. There may be signs of severity that indicate the need for urgent surgery (hemodynamic instability: hypotension, confusion, diaphoresis, clouding)

It is important to determine the history of the pain: how and when it started: the presence of gastrointestinal symptoms (eg anorexia, nausea, vomiting, relative or persistent constipation, flatulence); urinary symptoms (eg, urgent sensation to urinate, frequent urination, hematuria

and dysuria and signs of infection (fever, chills).

**Causes of pelvic pain**

**Acute pain: gynecological disease or dysfunction**

Complication of pregnancy

- Ectopic pregnancy (EE) ruptured
- Threatened abortion (AA) or incomplete abortion
- Degeneration of leiomyoma
- Acute infections
- Endometritis
- Pelvic inflammatory disease
- Tubo-ovarian abscess
- Adnexal disorders
- Ovarian Cyst functional hemorrhagic gico
- Attachment twist
- Torsion paraovarian cyst
- Ovarian cyst rupture (functional or neoplastic: dermoid / endometrioma)

**Recurrent pelvic pain**

- Periovalutary pain (Mittelschmerz)

- Primary / secondary dysmenorrhea

**Gastrointestinal causes**

- Gastroenteritis
- Appendicitis
- Intestinal obstruction
- Diverticu litis
- Inflammatory bowel disease
- Irritable bowel syndrome

**Geritourinary causes**

- Cystitis
- Pyelonephritis
- Ureteral lithiasis

**Musculoskeletal causes**

- Abdominal wall hematoma
- Inguinal hernia

**Gynecological causes (table 1)**

**Table 1:** Acute gynecological abdomen differential diagnosis table

Diagnostic suspicion	Clinic	Confirmation	Treatment
EIP	Fever, pain, flow vaginal abnormal	Bacteriological Laparoscopy	Antibiotherapy Surgery
Ectopic	Amenorrhea, pain, vaginal bleeding, hemoperitoneum	Hemogram Laparoscopy pregnancy test	Laparoscopy vs Laparotomy
Adnexal cyst	Adnexal mass Painful touch	Ultrasound	Laparoscopy vs Laparotomy
Myoma	Menometrorrhagia Irregular uterus	Ultrasound	Expectant vs Laparotomy
Urine infection	Fever, low back / suprapubic pain	Urine culture	Antibiotherapy

**Ovarian**

- Complicated ovarian cyst (hemorrhage, torsion, rupture)
- Follicular rupture

**Tubal**

- Ectopic pregnancy
- Adnexal torsion
- EIP

**Uterine**

- Interstitial or horn EE
- Complicated fibroid
- Adenomyosis
- Abortion in progress

**Other causes**

- Acute porphyria
- Pelvic thrombophlebitis
- Aneurysm
- Abdominal angina

**Diagnosis of acute pelvic pain**

For a correct diagnosis, the clinical history, type of pain, data, complete clinical, analytical and diagnostic tests. It determines your relationship with the menstruation and ovulation or intercourse.

- History and physical examination
- Hemogram and coagulation
- Urine, sediment
- Pregnancy test (urine / serum)
- Cervical culture (Gonococcus / Chlamydia)
- Pelvic ultrasound
- If pregnancy test +: rule out EE

- Pelvic tumor of uncertain diagnosis

- Abdominal X - ray of the digestive tube if digestive symptoms predominate  
 - CT: assess retroperitoneal tumor, or abscesses of the digestive tract

- Diagnostic laparoscopy :

- Acute abdomen of unknown cause
- Clarify the nature of a tumoral tion of a dubious anejo
- Define whether a pregnancy is intra or extrauterine
- Improve diagnostic accuracy if salpingoophoritis is suspected
- Laparotomy (laparoscopy relatively mind Contrain dicado)
- Peritonitis
- Severe ileus
- Bowel obstruction

**Ectopic pregnancy**

Ectopic pregnancy is one of the most frequent gynecological emergencies, constituting the first cause of maternal death due to hemorrhagic shock.

The incidence is 1%, increasing (PID, intrauterine device – IUD-, assisted reproductive treatment (ART), conservative surgery, older age). Heterotopic pregnancy (1 / 30,000).

**Clinical manifestations**

They usually appear with 6 or 7 weeks of amenorrhea, although it can occur later. It can present from asymptomatic to hypovolemic shock and death.

The classic symptoms are (full EE or no rupture) 1,2:

- Abdominal pain: it is the most important symptom, in 99% of cases
- Amenorrhea in 75%

- Bleeding vaginal (low amount, in- mittent, dark) at 56%  
An EE should be suspected in any head-WANT woman in age reproductive with these symptoms, especially with factors of risk, to try to form less aggressive (about the half pass unnoticed on the first visit).

### Risk factors 3

- High risk
- Previous EE
- Previous tubal surgery (increases risk by 5-10%)
- Ligation of tubes (x 20 times)
- Tubal pathology / endometriosis.
- Intrauterine diethylstilbestrol
- IUD (more common in "hormone releaser")
- Moderate risk
- Infertility. *In vitro* fertilization (IVF): (incidence 1-3%) 4
- Previous cervicitis
- History of PID (Chlamydia, risk x6) 5
- Multiple sexual partners
- Tobacco
- Low risk
- Previous abdominopelvic surgery (adhesions)
- Start early in relationships sexual

It is important to perform a pregnancy test in women with abdominal pain or vaginal bleeding to focus the subsequent evaluation.

Amenorrhea plus abdominal pain with the presence or absence of vaginal bleeding are complicating symptoms of early pregnancy (threatened abortion, rupture or torsion of the corpus luteum, degeneration of uterine leiomyoma, USA).

### Recommended diagnostic test

#### Transvaginal ultrasound

The transvaginal Echo test is the most useful to determine the location of the sac. It has high sensitivity and specificity. If there is a break, free liquid appears in the abdomen.

It detects the presence or absence of a gestational sac inside or outside the uterus and thus establishes the diagnosis. A complex adnexal mass + positive pregnancy test and an empty uterus is highly suggestive of an EE and is the most common ultrasound alteration (E: 99.9%, PPV 96.7%, NPV 99.4%) [6].

#### β hCG

The combination of transvaginal Echo and chorionic gonadotropin βh allows a definitive diagnosis in almost all cases, very early, allowing less invasive treatments than surgical excision<sup>7</sup>.

It can be detected in serum and urine 8 weeks after the appearance of the LH surge. Rises more slowly in most, but not always (EE and non-viable pregnancies<sup>8</sup> or sometimes similar). Measuring βhCG every 72 hours instead of every 48 hours is more practical<sup>9</sup>. A normal increase in βhCG should be evaluated with ultrasound (if βhCG greater than 1,500) and can be diagnosed intrauterine or ectopic. If the βhCG does not double after 72 hours, it is possible to affirm that it is a norm evolutionary intrauterine pregnancy (an embryonal, tubal abortion, abortion, spontaneously resolved EE). A decrease in βhCG is more consistent with a failed pregnancy; the decline is slower with an EE, measured weekly up to βhCG (-).

From 1,500 (2,000 IU / l) of βhCG it should be possible to

visualize the sac with echo<sup>10</sup> (ultrasound is not sensitive to determine the location when βhCG is lower). The absence of an intrauterine sac with this level of βhCG suggests EE or not viable or it may represent a multiple gestation for which ultrasound and βhCG are repeated in 48 hours.

An EE can be diagnosed if the concentration of βhCG is elevated or "plateau" and not visualized by ultrasound.

Other diagnostic tests are: serum progesterone level, echo-Doppler, laparoscopy, MRI, culdocentesis, but they do not add useful additional clinical information.

Treatment can be oriented from a medical or surgical point of view. If tubal rupture or hemodynamic instability is suspected, the treatment of choice is laparoscopy with salpingectomy. If there is no tube rupture, a more conservative treatment with salpingostomy (opening of the tube) and extraction of the sac can be considered; Subsequently, βhCG controls should be carried out until it is negative. But if the patient is symptomatic, the βhCG is less than 5,000 IU and the tube is smaller than 3 cm, medical treatment with 50 mg of methotrexate in a single dose i.m. and subsequent control of βhCG until its denial.

Although the most important factor for the prognosis of future fertility is early diagnosis, it is important to know the status of the contralateral tube and the history of tubal surgery.

### Broken ovarian cyst

This situation is frequent in reproductive age; more frequent in the right annex. It can be asymptomatic or associated with the sudden onset of unilateral abdominal pain, which begins during physical activity or intercourse. It may be accompanied by slight vaginal bleeding. Depending on the nature of the cyst, it may remain asymptomatic (serous or mucinous) or produce severe pain (dermoid: chemical peritonitis).

The most important thing is to exclude ruptured EE (hemoperitoneum) due to the need for urgent surgery.

It is necessary to carry out a pregnancy test, hemogram, group and Rh, urinalysis; ultrasound: (sensitivity: 85-100%)<sup>11</sup>; an adnexal mass with fluid in the pelvis suggests rupture, but is not diagnostic. Avoid culdocentesis, paracentesis, and tumor markers.

If the rupture is not complicated, do outpatient management and oral analgesia on demand. The fluid is reabsorbed within 24 hours and symptoms improve within a few days (possible subsequent surgery if persistent cyst, or it grows, or malignancy is suspected).

If it is complicated by hemoperitoneum, hospitalization with fluid replacement, vital signs, a serum hematocrit, and repeat ultrasound are required. Once it stops, it takes several weeks to be reabsorbed. If the patient is unstable, laparoscopy (laparotomy) will be evaluated.

If there is a ruptured dermoid cyst (rare), chemical peritonitis will occur, which develops adhesions formation and chronic pelvic pain.

### Pelvic inflammatory disease

It is an acute infection of the upper genital tract (uterus-tubes-ovaries). It is often accompanied by involvement of neighboring pelvic organs (endometritis, salpingitis, oophoritis, peritonitis, perihepatitis, and Tubo-ovarian abscess); the endometrium and ovary are less susceptible to infection than the tube, but may be the focus of infection.

It is a sexually acquired infection in most cases and less

frequently it is caused by medical procedures, pregnancy and other primary abdominal processes. It represents a spectrum within the infection. There is no single "gold standard" diagnosis and the value of the clinical diagnosis is of the utmost importance.

### Symptoms

Lower abdominal pain is the main presenting symptom, although the pain characteristic can be quite subtle. The recent onset of pain that worsens during intercourse may be the only symptom and the onset during or just after menstruation is particularly suggestive<sup>18</sup>. Abdominal pain is usually bilateral and rarely more than 2 weeks in duration. In a third of cases, abnormal uterine bleeding is added<sup>19</sup>. Vaginal discharge, urethritis and fever appear that may be associated, but are neither sensitive nor specific for the diagnosis. PID is less likely if there are symptoms related to the urinary or digestive tract.

Risk factors for sexually transmitted diseases are: age younger than 25 years, sexual precocity, no barrier methods, new or multiple or symptomatic sexual partners, oral contraceptives and cervical ectopia.

The patient should be evaluated and the risk factors that increase the probability of PID such as: previous episodes of PID, sexual intercourse during menstruation, vaginal douching, bacterial vaginosis and IUD.

On physical examination, only half have fever and diffuse abdominal pain. Endocervical purulent flow and / or pain on cervical mobilization and adnexal pain on bimanual examination is highly suggestive of PID. Uterus and adnexa: point of maximum pain. Lateralization of adnexal pain is rare in PID; the existence of a palpable adnexal mass may represent a Tubo-ovarian abscess and other processes.

### Diagnostic considerations

PID represents a spectrum of clinical disease from endometritis to sepsis intra-abdominal. Although laparoscopy has substantial value in confirming the diagnosis of PID, it is not sufficiently sensitive to be considered a "gold standard" in the diagnosis.

### Diagnostic criteria

The degree of suspicion should be high, especially in adolescent women, even if they deny sexual intercourse. A minimum of criteria for empirical treatment has been recommended by the CDC to reduce the possibility of losing or delaying the diagnosis<sup>20</sup>.

Empirical treatment is advised in women with abdominal pain who have at least one of the following criteria:

- Painful cervical mobilization or uterine / adnexal pain
- Temperature greater than 38.3 °C
- Leukocytosis with left deviation
- Abnormal mucopurulent cervical or vaginal discharge
- Leukocytes in vaginal smear
- Increase in the speed of globular sedimentation
- Increased C-reactive protein

### Diagnostic test

It includes a complete analysis looking for signs of inflammation, smears of vaginal or cervical secretions, cultures and imaging studies.

Always start with a pregnancy test to rule out EE The blood count is of little use since only half have leukocytosis<sup>21</sup>.

Microscopic examination of flow can offer useful

information. If the Gram is + for diplococci, the probability of PID is very high; if it is negative it is of little use. Chlamydia and gonococcus test, urine sediment, PCR. Ultrasound is a test that offers a definitive diagnosis of PID according to the CDC.

### Recommendation

There should be a low threshold for the diagnosis of PID, and young women sexually active patients with the combination of lower abdominal pain, pain on cervical or adnexal mobilization should receive empirical treatment. The specificity of these criteria may be increased by the presence of fever, abnormal vaginal / cervical discharge, increased ESR and / or CRP, and the demonstration of gonococcal / chlamydia infection.

Even women with minimal findings should be treated. Differential diagnosis is extensive, however, antibiotic treatment should not be delayed when suspicion is high.

### References

1. Schwartz SM. Epidemiology of uterine leiomyomata. *Clin Obstet Gynecol* 2001; 44:316–326. 2.
2. Silverberg SG, Kurman RJ. Smooth muscle and other mesenchymal tumors. In: Rosai J, ed. *Tumors of the uterine corpus and gestational trophoblastic disease*, fasc 3, ser 3. Washington, DC: Armed Forces Institute of Pathology 1992, 113-130.
3. Jorizzo JR, Riccio GJ, Chen MY, Carr JJ. Sonohysterography: the next step in the evaluation of the abnormal endometrium. *RadioGraphics* 1999;19:S117-S130.
4. Sohaey R, Woodward P. Sonohysterography: technique, endometrial findings and clinical applications. *Semin Ultrasound CT MR* 1999;20:259-266.
5. Weinreb JC, Barkoff ND, Megibow A, Demopoulos R. The value of MR imaging in distinguishing leiomyomas from other solid pelvic masses when sonography is indeterminate. *AJR Am J Roentgenol* 1990;154:295-299.
6. Kim JC, Kim SS, Park JY. Bridging vascular sign" in the MR diagnosis of exophytic uterine leiomyoma. *J Comput Assist Tomogr* 2000;42:57-60.
7. Ueda H, Togashi K, Konishi I, *et al.* Unusual appearances of uterine leiomyomas: MR imaging findings and their histopathologic backgrounds. *RadioGraphics* 1999;19:S131-S145.
8. Murase E, Siegelman ES, Outwater EK, PerezJaffe LA, Tureck RW. Uterine leiomyomas: histopathologic features, MR imaging findings, differential diagnosis, and treatment. *RadioGraphics* 1999;19:1179-1197.
9. Casillas J, Joseph RC, Guerra JJ Jr. CT appearance of uterine leiomyomas. *RadioGraphics* 1990;10:999-1007.
10. Helvie MA, Silver TM. Ovarian torsion: sonographic evaluation. *J Ultrasound Med* 1989;17:327-332.
11. Lee EJ, Kwon HC, Joo HJ, Suh JH, Fleischer AC. Diagnosis of ovarian torsion with color Doppler sonography: depiction of twisted vascular pedicle. *J Ultrasound Med* 1998;17:83-89.
12. Wilms AB, Schlund JF, Meyer WR. Endovaginal ultrasound in ovarian torsion: a case series. *Ultrasound Obstet Gynecol* 1995;5:129-132.
13. Houry D, Abbott JT. Ovarian torsion: a fifteenyear review. *Ann Emerg Med* 2001;38:156-159.

14. Bellah RD, Griscom NT. Torsion of normal uterine adnexa before menarche: CT appearance. *AJR Am J Roentgenol* 1989;152:123-124.
15. Demopoulos RI, Bigelow B, Vasa U. Infarcted uterine adnexa: associated pathology. *N Y State J Med* 1978;78:2027-2029.
16. Kimura I, Togashi K, Kawakami S, Takakura K, Mori T, Konishi J. Ovarian torsion: CT and MR imaging appearances. *Radiology* 1994;190:337-341.
17. Ghossain MA, Buy JN, Sciot C, Jacob D, Hugol D, Vadrot D. CT findings before and after adnexal torsion: rotation of a focal solid element of a cystic mass as an adjunctive sign in diagnosis. *AJR Am J Roentgenol* 1997;169:1343-1346.
18. Kawahara Y, Fukuda T, Futagawa S, et al. Intravascular gas within an ovarian tumor: a CT sign of ovarian torsion. *J Comput Assist Tomogr* 1996;20:154-156.
19. Hallatt JG, Steele CH Jr, Snyder M. Ruptured corpus luteum with hemoperitoneum: a study of 173 surgical cases. *Am J Obstet Gynecol* 1984;149:5-9.
20. Wilbur AC, Goldstein LD, Prywitch BA. Hemorrhagic ovarian cysts in patients on anticoagulation therapy: CT findings. *J Comput Assist Tomogr* 1993;17:623-625.
21. Raziell A, Ron-El R, Pansky M, et al. Current management of ruptured corpus luteum. *Eur J Obstet Gynecol Reprod Biol* 1993;13:549-555.
22. Baltarowicz OH, Kurtz AB, Pasto ME, et al. The spectrum of sonographic findings in hemorrhagic ovarian cyst. *AJR Am J Roentgenol* 1987;148:901-905.
23. Hertzberg BS, Kliewer MA, Paulson EK. Ovarian cyst rupture causing hemoperitoneum: imaging features and the potential for misdiagnosis. *Abdom Imaging* 1999;24:304-308.