

Gynecological Emergencies in the General Surgical Unit

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Abstract:

Objectives: To evaluate the gynecological cases presented to our surgical unit as acute abdomen in respect to their clinical features, diagnosis and treatment.

Methods: A prospective study of 60 female patients admitted to the surgical unit at AL-Yarmouk Teaching Hospital presenting with gynecological causes of acute abdomen excluding trauma emergencies.

Results: The causes were; ruptured ovarian cyst in 36 patients (60%), pelvic inflammatory diseases in 15(25%) and ectopic pregnancy in 9 patients (15%). The clinical features were mainly abdominal pain, fever, nausea, vomiting and vaginal bleeding or shock state. Abdominal examination in all cases revealed abdominal tenderness. In all patients the diagnosis was mainly confirmed at exploration and intervention depended mainly on clinical grounds. The most common differential diagnosis in these cases was acute appendicitis. Gynecological examination and U/S were not conclusive, and laparoscopy was not used in our study. Postoperative complications occur in 5 patients (8.33%) and there was no mortality.

Conclusion: We conclude from this study; better experience in L/S examination is needed, and the importance of the use of laparoscopy in the diagnosis and treatment of such conditions.

Keywords: Gynecology, emergency, acute abdomen, appendicitis.

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Introduction:

Acute abdomen is an acute severe abdominal pain which might present to the surgeon, gynecologist, pediatrician, and physician. It include multiple causes both medical and surgical.⁽¹⁾ The diagnosis and treatment of acute abdominal pain remain one of the most important aspect of patient care and resolution of the problem usually resides with the surgeon. An accurate diagnosis is essential for the correct treatment, which in many cases will prevent the death of the patients.

The natural history of abdominal pain depend on the pathological process involved which in some instances may resolve spontaneously with little or no treatment(e.g. gastroenteritis) and other times may progress to generalized peritonitis and death (e.g. perforated viscous). The complexity of the entity known as acute abdomen is such that a careful, methodical diagnostic approach is necessary to arrive at correct diagnosis.⁽¹⁾

Gynecological problems presented as acute abdomen form good bulk of surgical emergencies in the surgical word including (pelvic inflammatory diseases, rupture ovarian cyst and ectopic pregnancy).⁽²⁾ Most of those gynecological emergencies presented with similar clinical picture to acute appendicitis and it is difficult to be differentiated from it.

The rate of false—negative appendicectomy is highest in young adult females. The finding of normal appendix is seen in 32 - 45% of appendicectomies performed in women 15 to 45 years of age.

Diseases of female internal reproductive organs that may be erroneously diagnosed as appendicitis are in approximate descending order of frequency; pelvic inflammatory diseases (PID), rupture graafian cyst, twisted ovarian cyst or tumor, endometriosis and ruptured ectopic pregnancy.^(2,3&4) Most of these gynecological emergencies occur in females of reproductive age and occasionally in adolescent patients and rarely in post menopausal patients.^(2,4&5) In this study we will discuss gynecological emergencies presented as acute abdomen in our surgical unit.

Patients and Methods:

A prospective study was carried out in the surgical unit at Al-Yarmouk Teaching Hospital for the period from January 2005 to January 2006. The study included 60 female patients who presented in the casualty department as an acute abdomen and treated surgically in our unit with the final diagnosis of a gynecological cause.

All patients presented to the casualty department. Twelve patients were referred to the gynecologist on duty for consultation. All patients were examined clinically and had general investigations (general urine examination, white blood cells count, blood urea and fasting blood sugar done when indicated). Plain x-ray of abdomen was done in 10 patients and L/S in 20 patients.

Exploration was done under general anesthesia through paramedian incision in 16 patients, and grid iron incision in 44 patients depending on the clinical assessment.

Data collected includes demographic information, history, clinical examination, laboratory investigations, imaging studies, pre-operative and postoperative information. Trauma and elective cases were not included in the study.

Results:

The causes of acute abdomen after exploration were: ruptured ovarian cyst in 36 patients (60%), PID in 15 (25%), and ectopic pregnancy in 9 patients (15%). The age of the patients ranged from 11-60 years and a mean age of 30. Most patients were in the third decade for all causes as in table (1).

In cases with ectopic pregnancy, the commonest presenting symptom was lower abdominal pain in all patients, while the commonest sign was lower abdominal tenderness and rigidity in 7 patients (77.7%) as in table (2). In those with ruptured ovarian cyst, lower abdominal pain was the commonest presenting symptom in 20 patients (55.5%), while abdominal tenderness was positive in all patients as in table (3). In patient with PID, pain was the presenting feature in 14 patients (93.3%), and abdominal tenderness was a commonest abdominal sign in all patients as in table (4).

In our study, post operative complications included; 2 cases (3.33%) with chest infection and 3 cases (5%) with wound infection. There was no mortality in this study.

Table (1): Age distribution of patients in relation to final diagnosis

Causes	11-20	21-30	31-40	41-50	Total
Ectopic pregnancy		6	3		9
FID		10	3	2	15
Ruptured ovarian cyst	12	19	3	2	36
Total	12	35	9	4	60

Table (2): The presenting clinical features of patients with ectopic pregnancy

	No.	%
Symptoms		
Pain in right iliac fossa	3	33.3
Nausea and vomiting	5	55.5
Abnormal vaginal bleeding	5	55.5
Diffuse lower abdominal pain	6	66.6
Fever	3	33.3
Missed period	3	33.3
Signs		
pallor	2	22.2
Abdominal tenderness	7	77.7
Shock	2	22.2
Rigidity	7	77.7
Rebound tenderness	7	77.7

Table (3): The clinical features of patient with ruptured ovarian cyst

	No.	%
Symptoms		
Lower abdominal pain	20	55.5%
Right iliac fossa pain	16	44.4%
Nausea & vomiting	12	1^33.3%
dysuria	5	13.8%
fever	14	38.8%
Signs		
Diffuse lower abdominal tenderness	16	44.4%
Rebound tenderness	21	58.3%
Palpable abdominal or pelvic mass	4	11.1%
Right iliac fossa tenderness	20	55.5%

Table (4): The clinical features of patients with PID

	No.	%
Symptoms		
Lower abdominal pain	14	93.3%
Right iliac fossa pain	1	6.6%
anorexia	7	46.6%
nausea	5	33.3%
vomiting	5	33.3%
diarrhoea	2	13.3%
fever	9	60%
dysuria	7	46.6%
Vaginal discharge	9	60%
Signs		
Abdominal tenderness	15	100%
Cervical tenderness	6	40%
Adnexial mass	2	13.3%

Discussion:

The gynecological causes of acute pelvic pain include haemoperitoneum, infection, abnormal pregnancy, and vascular complications. Haemoperitoneum may be due to retrograde menstruation, rupture of functional or neoplastic ovarian cysts, or an ectopic pregnancy. It may also follow uterine perforation during the insertion of an intrauterine device or an operation on the uterus, such as dilatation and curettage, or hysteroscopy. Salpingitis due to sexually transmitted disease is the most common infective gynecological cause of pelvic pain. Other causes include septic abortion or rupture of a pelvic abscess. Other causes includes; inevitable abortion, rupture of a corpus luteum cyst, red degeneration of a fibroid and torsion of an ovarian cyst or, more rarely, a pedunculated subserous fibroid.⁽⁶⁾

As in the condition of appendicitis, some of these conditions require surgical intervention such as ectopic pregnancy, twisted ovarian cyst, and ruptured tuboovarian abscess.

While others can be managed conservatively as in case of rupture graafian follicle and acute pelvic inflammation. The differential diagnosis of abdominal pain particularly in a patient with suspected appendicitis is one of the fascinating exercises of clinical surgery. Exploratory operation is usually required to settle the diagnosis of suspected cases to prevent the complication of acute appendicitis.

Ectopic pregnancy:

Nine patients (15%) had been treated in this collection. Although the number seems limited, but ectopic pregnancy is still one of the common causes of acute abdomen in gynecological emergencies. Ectopic pregnancy continues to be a leading cause of maternal morbidity and of reduced childbearing potential among women of reproductive age.^(7,8) During the past two decades, the incidence of ectopic pregnancy has doubled or tripled in many parts of the world.⁽⁹⁾

The commonest age group in our study was in the third decade. Three patients (33.3%) had an intra-uterine device and 3 (33.3%) were smokers. The main identified risk factors include PID in particular that due to chlamydial infection, previous ectopic pregnancy and cigarette smoking, a third risk which could be prevented is induced conception cycles especially by clomiphene. Other risk factors are pelvis surgery and maternal age especially over 35.⁽¹⁰⁾

A study from France concluded that previous proved or suspected salpingitis, maternal smoking and maternal age greater than 30 are the commonest risk factors of ectopic pregnancy.⁽¹¹⁾ Another study from Italy concluded that smoking more than 10 cigarettes/day doubles the risk of ectopic pregnancy. A history of abdominal cigarettes/day doubles the risk of ectopic pregnancy. A history of abdominal surgery was associated with about a double risk of ectopic pregnancy. The risk was higher in cases of cesarean section and pelvic surgery.⁽¹⁰⁾

The main clinical presentation in our study was diffuse lower abdominal pain or right iliac fossa pain in all patients. Vaginal bleeding and features of shock came next. The clinical presentations vary from sudden onset of severe lower abdominal pain to patients presented with shock state, with or without nausea and vomiting. These signs and symptoms are usually non-specific and may be misleading.⁽⁷⁾ An ectopic can be associated with almost any pattern of bleeding and the pain may not be unilateral.⁽⁹⁾

Our decision for surgical intervention depended mainly on clinical grounds. Gynecological examination and U/S did not confirm the diagnosis. This limited use of U/S examination was due its unavailability in our hospital after the working hours. Ultra-sound is regarded as the simplest and the most accurate study confirming the diagnosis of ectopic pregnancy.^(7,8)

Emergency pelvic imaging is currently based on transabdominal and transvaginal sonography. Life threatening emergencies such as ectopic pregnancy and adnexial torsion can be diagnosed by these techniques.⁽¹²⁾

Compared with transabdominal pelvic ultrasonography, transvaginal ultrasonography provides improved resolution for visualization of female pelvic organs, with less artifact and has superseded it.⁽¹³⁾

The increasing use of quantitative B-human chorionic gonadotrophine assay and vaginal ultrasonography have made early diagnosis possible, allowing conservative tubal surgery when indicated.⁽¹⁴⁾

All our patients were treated by surgical intervention with salpingectomy in order to excise the offending pathology and its life threatening effects on patients. Laparoscopy had not been used as therapeutic tool in this collection due to lack of experience in treating emergency cases laparoscopically. A study from China concluded that intervention, early hospitalization, early diagnosis and early therapy can lower the mortality of ectopic pregnancy.⁽¹⁵⁾

Another study from Singapore concluded that a protocol is necessary for the management of ectopic pregnancy were ultrasound scan, serial hCGs and selective repeat ultrasound scans are highly recommended for the diagnosis of ectopic pregnancy and any deviation from the protocol is dangerous, with a 4% risk of

missing an ectopic and a 7% risk of unnecessary operation for suspected ectopic pregnancy.⁽¹⁶⁾

Laparoscopy has an important place in the management of conditions that cause acute pelvic pain in women of reproductive age, including ectopic pregnancy and 17.1% pelvic inflammatory disease.^(17,18)

Pelvic inflammatory diseases:

Pelvic inflammatory disease is a common and poorly managed condition. Untreated or inadequately treated, it leads to tubal infertility, ectopic pregnancy and chronic pelvic pain.⁽¹⁹⁾

More than 1 million women in the United States are reported to have PID. Of these women, 70% are under 25 years of age. Many cases go unreported and often are unrecognized, especially in 11 to 15-year-old adolescents.⁽²⁰⁾

Fifteen patients (25%) of our collection proved to have PID. The 3rd decade was the commonest age group. All were married. Most of them had previous attack of PID and four patients had history of intrauterine device. Pelvic inflammatory disease is basically a medical problem but has profound surgical implications. It is largely limited to sexually active female. Several factors have been recognized as placing the patient at risk; age younger than 20 years, multiple sexual partners, nulliparity, previous PID and IUD.⁽⁸⁾ In other countries, the sexually transmitted diseases in sexually active females is common cause.^(8,10)

Many risk factors are not applied in our society due to differences in our social life and habits.

In our study, we couldn't isolate the offending organism due to lacking of the examination after the working hours. The organism responsible for PID is commonly due to gonococcal infection.⁽⁷⁾ While a study from England and Wales concluded that genital Chlamydia trachomatis infection is the commonest curable sexually transmitted disease and is one of the chief causes of PID in women.⁽²¹⁾ Patients with AIDs had more difficult outcome which includes longer hospital stay, prolonged fever and tubo-ovarian abscess.⁽²²⁾

The clinical presentations of our patients were lower abdominal pain; fever and Gynecological examination and Ultrasound examination did not confirm the diagnosis. The clinical diagnosis of PID has limitations and the clinical diagnostic criteria are insensitive and non specific and false positive and false negative is common.⁽¹³⁾ Most of our cases had features similar to acute appendicitis and the decision for operation was taken accordingly. In many studies, U/S was of benefit in the diagnosis of PID especially in cases with tubo-ovarian abscess.⁽²³⁾ While a study from USA concludes that Endovaginal sonography has limited clinical utility in the diagnosis of upper genital tract infection due to its low sensitivity.⁽²⁴⁾

Ruptured ovarian cyst:

Rupture ovarian cyst (ruptured graffian follicle or from large hemorrhagic cyst rupture) constitute 36 (60%) of cases in our study.

Ovulation commonly result in the spillage of sufficient amount of blood and follicular fluid to produce brief mild lower abdominal pain .If the amount fluid is copious and from the right ovary, appendicitis may be simulated. This occur typically in the midcycle this condition is known as (mittelschmerz).⁽²³⁾

A study from Japan concluded that hemorrhagic ovarian cyst is often involved in acute abdomen leading to laparotomy intervention. The reason for this mainly lie in the fact it is easily misdiagnosed as an organic mass because of the lower abdominal pain and the variable appearance of ultrasonographic images at presentation, while trasvaginal sonography can be of significant results.⁽²⁵⁾ Only 2 cases were treated by oophorectomy and the rest were treated by simple excision of cyst. A study from Germany concluded that, in premenpausal women, the differential diagnosis of ovarian cyst is not possible by clinical characterization, either by U/S or cytological evaluation.

Simple ovarian cyst should be observed for at least 8 weeks or 2 menstrual cycles respectively. If persisting over that period the ovarian cyst should be removed by laparoscopy, but not by cyst aspiration. Another study from France concluded that laparoscopic oophorectomy is simple, rapid and has a low rate of per and post operative complication.⁽²⁷⁾

In our study, the immediate post operative complications were very little including chest infection, minor wound infection and there was no mortality.

Conclusion:

Gynecological emergencies might present to the surgical department as an acute abdomen and surgical intervention will settle the diagnosis and is safe. Cooperation between general surgeon and gynecologist on duty is important as well as better efficiency in ultrasound examination and the use of laparoscope in diagnosis and therapy.

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