

GYNAECOLOGICAL DISORDERS THAT MIMICS ACUTE SURGICAL CONDITIONS: A STUDY ON 588 FEMALE PATIENTS WITH THE PRESUMPTIVE DIAGNOSIS OF ACUTE APPENDICITIS

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ABSTRACT

Objective: In surgical practice, the surgeon may face several gynaecological disorders that can present as an acute abdomen, more specifically acute appendicitis. Some of these disorders may not need surgical interference. The objective of this study was to investigate the incidental findings of gynaecological disorders in a routine surgical practice in a major hospital in Basrah (Iraq) and to determine the incidence, types and features of these diseases that differentiate them from surgical diseases in order to avoid unnecessary surgical procedures.

Patients and Methods: This study was conducted from January 2000 to 2004 in Al-Sadir Teaching Hospital in Basrah, it included 588 female patients of different age groups who were admitted to the hospital with presumptive diagnosis of acute appendicitis.

Results: Intra operative diagnosis of acute appendicitis was confirmed in 65.3% while normal appendices were found in 6.9%. Gynecological disorders were found in 24.3%, of these disorders, the most common was ruptured ovarian cysts. Age group mostly affected was between 21 and 30 years.

Conclusion: Female patients especially in child bearing age who present clinically as acute abdomen or acute appendicitis needs proper in hospital observation and repeated clinical examination together with the use of ultrasound in order to exclude gynaecological disorders that didn't need surgical interference.

INTRODUCTION

There are several gynecological disorders that can present as an acute abdomen, particularly when an incorrect diagnosis of acute appendicitis is made in women of child bearing age. The conditions that cause confusion include ruptured ovarian cyst, pelvic inflammatory diseases (PID), ruptured ectopic pregnancy and torsion of the ovary^[1]. Ovarian cysts are either non-neoplastic cysts (follicular, corpus luteal and endometrial) or proliferative cysts (cystic teratoma, cystadenoma, and cancer)^[2,3]. These cysts can cause acute abdominal pain when they rupture, twist, or infarcted, and the signs and symptoms are difficult to differentiate from acute appendicitis if the cyst is located in the right ovary. In ectopic pregnancy that occurs in less than 1% of pregnancies and in right-sided tubal abortion, the signs are very similar to those of acute appendicitis except that the pain commences on the right side and stays there. In acute tubo-ovarian abscess, when it is mainly right-sided, the differential diagnosis is so difficult that it is wiser to explore the abdomen^[1]. In the assessment of the females patients with acute lower abdominal pain it is necessary to separate problems that require operative intervention from cases in which surgical treatment is unnecessary or even undesirable. Ectopic

gestation, torsion of the ovary and ruptured tubo-ovarian abscess all require surgical intervention, while ruptured ovarian cyst may require only observation. In PID it is preferable to avoid surgery^[2]. The use of abdominal sonography has been increasing in the diagnosis of acute intra-abdominal diseases. It is a safe and rewarding procedure that may facilitate the avoidance of unnecessary laparotomy in emergency situation. It reduce morbidity and saves hospital resources^[4,5]. This study aimed to document the importance and the incidence of gynaecological disorders in the general surgical practice at Al-Sadir Teaching Hospital in Basrah.

PATIENTS AND METHODS

This a retrospective study carried out at Al-Sadir Teaching Hospital in Basrah, Iraq from January 2000 to January 2004. The hospital records of all female patients who presented with right lower abdominal pain and signs suggestive of acute appendicitis and were admitted to surgical wards were included in this study. The admission records were reviewed with regard to age, marital state of the patients, the operative finding regarding the presence of true appendicitis (*on macroscopic appearance*), other surgical findings, negative findings or the

presence of gynecological disorders. The appendix when examined macroscopically thoroughly and longitudinally bisected can be regarded as inflamed organ if it fulfilled one or more of the following criteria^[6]:

1. **Lumen:** contain an obstructing faecolith and distended by purulent materials.
2. **Mucosa:** hyperemia, swollen and often ulcerated or completely necrotic.
3. **Wall:** edema, congestion and swelling of the muscular wall.
4. **Peritoneum:** congestion of the serosal vessels and an inflammatory exudates commonly fibrinous or frankly purulent.

The types of gynaecological disorders were; ruptured ovarian cyst, torsion of the ovary, ruptured ectopic gestation and pelvic inflammatory diseases. These patients were subjected to available laboratory (like white blood cell count, GUE), X-ray or U/S investigations and underwent emergency surgery under general anesthesia with endotracheal intubations. All the operations performed through grid iron incision which was modified to other type of incisions whenever needed.

RESULTS

A total of 588 female patients of different age groups ranging from 8 to 65 years were included in this study. The operative findings are demonstrated in (Table-1); there were 384 patients (65.3%) of acute appendicitis of different pathological forms on gross appearance (congested, suppurative, gangrenous and perforated) followed by 18 patients (3.1%) of mesenteric lymph adenitis and two patients (0.4%) of Meckles diverticulitis. No pathology (after checking the appendix, terminal ileum, ovaries and other viscera) was found in 41 patients (6.9%) while gynaecological disorders were found in 143 patients (24.3%). Most of those with gynaecological disorders had ruptured ovarian cysts and it was seen in 105 patients (73.4%). Other gynecological conditions were torsion of the ovary in 18 patients (12.6%), ectopic gestation in 15 patients (10.5%) and pelvic inflammatory

diseases in 5 patients (3.5%); (Table-2). In addition, the commonest age group affected by these disorders was 21-30 years (46.8%) followed by the age group (31-40) as demonstrated in (Table-3).

Table 1. *The operative findings.*

Operative findings	No.	%
Acute appendicitis	384	65.3
Mesenteric lymphadenitis	18	3.1
Meckles diverticulitis	2	0.4
Gynecological disorders	143	24.3
Negative findings	41	6.9
Total	588	100

Table 2. *Types of gynecological disorders.*

Pathology	No.	%
Ruptured ovarian cyst	105	73.4
Torsion of the ovary	18	12.6
Ectopic gestation	15	10.5
Pelvic inflammatory disease	5	3.5
Total	143	100

Table 3. *Age distribution of patients with gynecological diseases.*

Age groups	No.	%
0-10	3	2.1
11-20	15	10.5
21-30	67	46.8
31-40	52	36.4
41-50	6	4.2
Total	143	100

Table 3. *Incidence of gynecological disorders in different studies.*

Author	%
Scott & Rosin ^[6]	33.3

Olsen et al. ^[7]	35
Tracoveanu et al. ^[8]	36.6
The present study	24.3

DISCUSSION

In our study the incidence of gynecological disorders in female patients who presented with right lower abdominal pain was 24.3% which is relatively less than what is reported in other studies conducted in England (Scott & Rosin)^[7], Denmark (Olsen et al)^[8] and Romania (Tracoveanu et al)^[9] where their incidence was 33.3%, 35% and 36.6% respectively^[7-9]. These differences in the results founded may attributed to the relatively high incidence of pelvic inflammatory disease in the female patients in Western countries that associated with high prevalence of sexually transmitted diseases particularly gonorrhoea^[10]. This incidence was increased over the last decades in these countries, for example, a 50% increase in pelvic inflammatory diseases was reported in the age group between 20-24 years^[11]. In our study we found that pelvic inflammatory diseases was less common than ruptured ovarian cyst, torsion of the ovary and ectopic gestation and this may reflect the relative difference in the prevalence of sexually transmitted disease in this region. Moreover, the main age groups affected by the gynaecological disorders were (21-30) year (46.8%) followed by the age group (31-40) years (36.4%) (Table-3). This fell in agreement with the results of other studies reflecting the fact that female patients in the child bearing age group are most often affected^[8,12]. Acute appendicitis was confirmed in 384 (65.3%) which was approximate to the results reported by other studies carried by Scott & Rosin^[7] (56%) and Olsen et al. (63.3%)^[8] while negative appendectomy findings were found in 41 patients (6.9%) which is similar to that reported by the previously mention studies. Ultrasound is a useful and effective diagnostic tool with accuracy reaching 90%^[13]. It seems that the procedure should be performed in conjunction with proper history taking from the patients and thorough physical examination together with close observation and repeated clinical evaluation. This should be done for all patients especially females in child bearing age who present with right lower abdominal pain in order to differentiate between surgical diseases that need urgent surgical interference and some

other gynecological disorders that were treated medically.

Finally, *it could be concluded that a thorough workup including repeated clinical evaluation and ultrasound will help to establish the diagnosis and to differentiate surgical and non surgical cases in female patients especially in child bearing age who present with a picture suggestive of acute appendicitis.*

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