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RESEARCH ARTICLE

Gynecological Problems in Surgical Emergency & Casualty Unit in Al-Jamhoory Teaching Hospital, Mosul, Iraq, 2021

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ABSTRACT

Background: Some patients having gynecological problems are admitted to the general emergency department because of the close resemblance with general surgical disease. A surgeon, therefore, must be familiar with the appropriate clinical assessment and management technique of such cases.

Objective: To study the problem of patients presenting to the surgical A&E unit with a gynecological problem and evaluate the prevalence of these varieties.

Methodology: The current study is a Prospective study in Al-Jumhory Teaching Hospital, Accident and Emergency (A& E) Department. During the duty of the general surgical unit. Starting from 1 January 2020 to 31 January 2021. Clinical assessment and routine laboratory investigations were performed on all the patients. More specific investigations were performed when required. All the patients were resuscitated and operated upon UGA. Further management or postoperative care was done in the gynecological ward.

Results: During the study period, 95 patients out of total of 1160 patients admitted to the A&E, we found to have gynecological problems, 8.1%. The most common age group was between 16 to 30, comprising 65% of patients. It was observed that the most common problem was due to a ruptured ovarian cyst (49%) and the least common problem was ovarian tumor (3%). The married patients were (67%). The preoperative diagnosis was correct in (60%) of the patients and misdiagnosis was in the remaining (40%). Ovarian problems (47%) were in the right side, and so in all other fallopian tube problems.

Conclusions: The rate of making erroneous diagnoses and maltreatment is high because of the close resemblance of clinical features, the nonavailability of certain diagnostic facilities in the emergency, like a pregnancy test and CT scan.

INTRODUCTION

Surgical emergencies in the Department of Gynecology and Obstetrics are expected in everyday life.[1] The management of such emergencies is essential to preserve life, sexual function, and fertility of the affected woman.[2] The major challenge in regard to such emergencies is the difficulty in evaluating the women in their reproductive age group and elderly women.[3] Ultrasound helps in the early assessment of patients with gynecological pathology.[4]

Our study is conducted in order to determine the burden of surgical emergencies in the Department of Gynecology and

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Obstetrics in an Al-Jumhory Teaching Hospital. It is important to address such emergencies on time because the delay in diagnosis and treatment may lead to worse outcomes. Early and prompt diagnosis help in their time management. The aim of the study to study the problem of the patients presenting to the surgical A&E unit; but having a gynecological problem, and evaluate the prevalence of these varieties.

METHODOLOGY

The current study is a Prospective study in Al-Jumhory Teaching Hospital, Accident and Emergency (A& E) Department, during the duty of the general surgical unit. Starting from 1 January 2020 to 31 January 2021, 1160 female patients consulted the (A &E) department with acute abdomen. Clinical assessment and routine laboratory investigations were performed on all the patients. More specific investigations were performed when required. All the patients were resuscitated and operated upon UGA. Further management or postoperative care was done in the gynecological ward.

RESULT

During the period of the study (1160) patients were admitted to the emergency department. Ninety-five of them had gynecological problems, proved by surgery, 60% of them were diagnosed preoperatively, 40 % were misdiagnosed as surgical emergencies.

It was found (31.5%) of patients were among the age group (16–30) years, while (18%) among the age group (31–45) years, (28%) were married and gave a history of primary infertility and took clomiphene tablet 50 mg for more than six months while (21%) were single with an irregular cycle. A total of 47% had a ruptured cyst in the right ovary; their presentation was right lower quadrant pain and tenderness. The correct preoperative diagnosis in 64% while misdiagnosis was in (25.5%) of patience diagnosed as complicated acute app gestation Table 1. The ovarian tumor was seen in (3%) of, single female patients. Two percent of them presented as painful, tender left lower quadrant mass, irregular menstrual cycle, and dysmenorrhoea. Histopathological study revealed ovarian teratoma in (2%) and Krukenberg tumor in the other one. Preoperative appendicitis, and in the remaining (10.5%) patients, was missed as ruptured ectopic.

Table 1: Number and percentage of correct and incorrect diagnoses of gynecological problems

Disease	*Total*	*Correct*	*%*	*Incorrect*	*%*
Ruptured O. Cyst	47	30	63.83	17	36.17
TOA	13	10	76.92	3	23.08
R. ectopic gestation	12	10	83.33	2	16.67
TOT	7	0	0	7	100
Uterine Perforation	5	3	60	2	40
Imperforate Hymen	4	2	50	2	50
Vulvovaginal trauma	4	2	50	2	50
OT	3	1	33.33	2	66.67

The diagnosis was correct in (33.3%) while the remaining (66.7%) of patients were missed as adnexal torsion. Tubo-ovarian abscesses were found in (14%) of married patients who presented with acute right lower quadrant abdominal pain, tenderness, fever, and vaginal discharge. For 10% of patients among the age group (16–30), and other (3%) of patients among (31–45) years. For 10% gave a history of having IUCD, and the remaining (3%) presented a few days after the termination of pregnancy. In all patients, the pathology was on the right side. The preoperative diagnosis was correct in ten (77%) patients, while (23%) patients missed diagnosed as complicated acute appendicitis as in Table 1. Ruptured ectopic pregnancy finding was observed in married (13%) patients who presented with acute right lower quadrant pain, tenderness, and guarding. Eight percent were among the age group (16–30) years while (4%) patients were among the age group (3045) years. In 10% of these patients, history revealed irregular menstrual cycle and denied any missed period revealed vaginal discharge and use of IUCD. Two percent of these patients on reception were in a shocking state that necessitated blood transfusion preoperatively. The preoperative diagnosis was correct by U\S in (83.3%) of these patients, while (16.7%) were missed as a perforated appendix, Table 1. Tubo-ovarian torsion finding was observed in (7%) patients with the irregular cycle, 5% of these patients are married. Their presentations were as acute right lower quadrant abdominal pain and tenderness. Five percent of these patients were among the age group (16–30) years and others were among (31–45) years. The preoperative diagnosis was missed in all (100%) of these patients as right ruptured ectopic gestation in (71.4%) of patients, while (28.6%) of patients as perforated appendicitis**.**

Uterine perforation was observed in (5%) of multipara female patients who presented with a painful, rigid abdomen and were shocked at reception, as 4% of patients presented immediately (a few hours) after the D. & C. procedure, while (1%) after a midwife's illegal termination of pregnancy. Three percent of patients were among the age grouping (31–45) years, while (2%) were among (16–30) years. The preoperative diagnosis was correct in (80%) patients and missed as perforated viscous in (20%). Imperforate hymen finding was observed in (4%) of single adolescent patients, who presented with acute painful right lower abdominal mass and tenderness without a history of menarche. These patients were among the age group (12–15) years. The preoperative diagnosis was correct in (50%) of these patients while (50%) missed adnexal torsion. Vulvovaginal Trauma findings were observed in (4%) of patients who presented with acute lower abdominal pain and perineal bleeding after blunt trauma. for 2% of these were single patients, among the age group (12–15) years, injured by falling on a hard object and other two married females among the age group (16–30) years, and the trauma was due to RTA. and fractured pelvis.

DISCUSSION

In the current study out of 1160 female patients who consulted the surgical ER section, (8.1%) of patients proved to have

gynecological problems. This is similar to the result of Kernahan *et al.*[5] finding who found that (9.3%) of the surgical cases consulted the surgical ER. had acute gynecological problems, acute lower abdominal pain was the commonest presentation found in 23%, and ectopic pregnancy was the most common gynecological emergency observed in 36.1% of their cases. The surgical findings in the majority of the patients in the current study were ruptured ovarian cysts (49%). This differs from the finding of Boyd *et al.*[6] study who reported that the most common problem (25.5%) was due to both acute PID. and ruptured ovarian cysts.

we found that the most affected age where gynecological emergency was present was between (16–30) years (62%) which is similar to Hardy *et al.*[7] result, who reported that in their series the 27.7 ± 6.3 years was the most involved age group due to PID. They explained this finding as a reflection of the social values regarding early sexual life in their society because of the sexually active females. Regarding marital status, we found that (64%) of the female in the current study were married which is slightly less than that in the study of Lawani *et al.*[2] study who reported 33 out of 44 (75%) of the females in their study were married. This is in our opinion because marriage in our society is higher than in them. The ruptured ovarian cyst was found in (49%) of patients, this is similar to Liu *et al.*[8] study where the ovarian cyst accounts for (43%) while patients with ovarian tumors account for (57%) of their patients. Concerning the age of the patients in our study (31.5%) of patients were among the age group (16-30) years while (18%) of patients among the age group (31–45) years. This differs from the results reported by Lawani *et al.*[2] who revealed that (70%) of ruptured ovarian cyst occurred among the age group (4–14) years old. As for 28% were married, had a history of primary infertility, and took clomiphene tablet, 50 mg for at least three months. This agrees with the study of

S.R. Townsend *et al.*[9] proved that ruptured ovarian cysts due to clomiphene happened in (30%) of their cases. While the other twenty (21%) were single with an irregular cycle, which is slightly less than the result found (25%) by Townsend *et al.*[9] Regarding the site of the pathology was (47%) of patients the pathology was on the right side, this is in our opinion mostly due to the referral of most cases with a symptom of right-sided lower abdominal pain to the surgical ER.

The correct preoperative diagnosis in (64%) of patients, while Lawani *et al.*[2] stated that in (55.5%) of their cases the preoperative diagnosis was correct, while the correct preoperative diagnosis was (82%) in the study of Zayed *et al.*[10] where one hundred nonpregnant patients were diagnosed as gynecological emergency preoperatively. Still, we misdiagnosed preoperatively (25.5%) patients who were diagnosed as complicated acute appendicitis, while (10.5%) patients were misdiagnosed as ruptured right ectopic gestation. This is mostly due to lack of experience and limited diagnostic facilities. While in Lawani *et al.*[2] study misdiagnosis rate was high (44.4%) as acute appendicitis and ectopic pregnancy, respectively.

Ovarian tumor found of the complicated ovarian tumor was observed in (3%) single female patients. This is slightly less than the result reported by Matulonis *et al.*[11] study who reported that the acute presentation of the ovarian tumor was (8%) in his study. The most common complaint of these patients was acute abdominal pain (2%). Patients the presentation was a painful, tender lower quadrant mass with an irregular menstrual cycle and dysmenorrhoea. Matulonis *et al.*[11] study reported these symptoms, which found that (73%) of the patients present similarly in their acute presentation due to hemorrhage inside the tumor. Regarding the age of these patients in the current study, their ages were between (17–45). This finding differs from the finding in Ebell *et al.*[12] study who reported (48%) of his patients with ovarian tumors were more than 65 years old, while in the study of Van *et al.*[13] most of their (82%) patients were among the age group (32–72).In these patients, the histopathological study revealed ovarian teratoma in (2%) of patients and Krukenberg tumor in the other one, which contradicts with Van *et al.*[13] finding who reported that most of their cases with an ovarian tumor, the histopathology were cystadenocarcinoma of the ovary, while the finding had been reported by Lee K-C *et al.*[1] study who reported a right ovarian metastasis from sigmoid carcinoma and presented as acute abdomen.

Total 14% of married patients have Tubo-ovarian abscesses presented with acute right lower quadrant abdominal pain, tenderness, fever, and vaginal discharge and are discovered to have turbo-ovarian abscesses. This is similar to Arafa *et al.*[3] study reported that (15%) of their patients suffer from tuba-ovarian abscesses due to chronic PID.

Total 10% of our patients belonging to this problem were among the age group (16–30) years, this is similar to the study done by Kamaya.[14] In all patients, the pathology was on the right side, this contradicts with findings of the study done by Hardy *et al.* and Gradison *et al.*[7,15] *et al.* who reported that (25-50)% of their cases appeared on the right side mostly because any patients who got abdominal pain into the right side are shifted to the surgical ER.

The preoperative diagnosis was correct in 10 (77%) patients. In comparison, the remaining 3 (23%) patients were misdiagnosed as complicated acute appendicitis, which is similar to Lawani *et al.*[2] study where (77.7%) patients were diagnosed correctly,. In comparison

The ruptured ectopic gestation finding was observed in (13%) patients presented with acute right lower quadrant pain, tenderness, and guarding is which is similar to the presentation of most of the patients in the study done by Gauvin *et al.* study.[16] For 8% of patients were among the age group (16–30) years, while four percent patients were among the age group (30–45) years, which is similar to the study of Gauvin *et al.*[16] In 10% patients, history revealed irregular menstrual cycle and so denied any missed period, this is less than (50%) of the patients with ruptured ectopic gestation reported in the study done by Marion *et al.*[17] who denied any missed period while other gave a history of amenorrhea.

Total 8% of patients, history revealed vaginal discharge and use of IUCD. this is slightly less than the result reported by Tran-Harding *et al.*[18] where (3-4%) of their cases with ruptured ectopic pregnancy used IUCD. Two percent of patients on reception were in a shocking state that necessitated blood transfusion preoperatively, which is similar to the study done by Sheele *et al.*[19]

The preoperative diagnosis was correct in eighty-three percent of these patients while (17%) missed as a perforated appendix, which is similar to Lawani *et al.*[2] study where (66.6%) were correctly diagnosed, while (33.3%) misdiagnosed as acute appendicitis. Tubo-ovarian torsion was observed in (7%) patients that had irregular cycles, this differs from the study done by Hardy *et al.*[7] who reported in his study that (18%) of the gynecological emergency presented to the ER. Five percent of these patients were married with irregular cycles, this contradicts with Hardy *et al.*[7] study who reported (71%) of their patients had irregular cycles. Five percent of patients were among the age group (16-30) years and others were among (31-45) years, which is similar to the finding in the study done by Lawani *et al.*[2] who reported the most affected age group with tubo- ovarian torsion was (16-25)year.

The preoperative diagnosis was missed in all of these patients in this study and misdiagnosed as right ruptured ectopic gestation (71.5%) patients and (18.5%) patients as perforated appendicitis. The same misdiagnosis was reported also by the study done by Lawani *et al.*[2] In comparison, the correct preoperative diagnosis was made by Poonai *et al.*[20] in (47%) of their cases, this is because the diagnosis of tubo-ovarian torsion is often missed as a cause of acute abdomen by the surgeons and ovarian salvage is rare.

Uterine perforation was observed in (5%) patients who presented with the painful rigid abdomen and were in a shocking state on reception, this contradicts Wodlin *et al.*[21] finding who reported that the incidence of uterine perforation in ER. The cause was evident in (4%) of our patients who presented immediately after the D & C procedure while (1%) presented a few days after illegal termination of pregnancy by a midwife, these findings were in agreement with Wodlin *et al.*[21] who recorded the above procedures were considered as risk factors of uterine perforation.

Age of 3% of patients between (31–45) years. while in (2%) among (16–30) years, which is similar to the finding in Heinemann *et al.*[22] who reported that most of his cases (65%) were among this age group.

The preoperative diagnosis was correct (80%) patients and missed as perforated viscous in the only one (20%), which is slightly less than the finding reported by Lawani *et al.*[2] who diagnosed (87.5%) and discovered (12.5%) during laparotomy.

four percent were observed in single adolescent patients, slightly more than the result reported with Hakim *et al.*[23] who reported that <1% incidence of the imperforate hymen in the cases reported in his study.

Their presentation was acute painful right lower quadrant mass and tenderness without a history of menarche yet among the age group (12–15) years, similar to the study of Hakim *et al.*[23] in the presentation and the age group. We found vulvovaginal trauma was observed in (4%) of patients who presented with acute lower abdominal pain and perineal bleeding after trauma. two percent of these were among the age group (12–15) years injured by falling on a hard object which is slightly less than the result reported by the study done by Jones and Connor.[24]

CONCLUSIONS

The rate of making erroneous diagnoses and maltreatment is high because of the close resemblance of clinical features, the nonavailability of certain diagnostic facilities in the emergency, like a pregnancy test and CT scan. This can be reduced to some extent by improving these shortcomings.

RECOMMENDATION

Recognizing cases with gynecological etiology as a significant factor in surgical practice is necessary. We need to do other studies in order to know the causes of the wrong diagnosis and avoid them.

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