

## ORIGINAL ARTICLE

# Gynaecological Encounters in Surgical Emergency

MUHAMMAD ASLAM JAVED<sup>1</sup>, AYESHA SHAUKAT<sup>2</sup>, HINA KHAN<sup>3</sup>, ARSLAN AHMED<sup>4</sup>

<sup>1,3</sup>Senior Registrar, Surgical Unit-III, Sir Ganga Ram Hospital, Lahore

<sup>2</sup>Professor and Head of Department South Surgical Ward, King Edward Medical University, Lahore.

<sup>4</sup>Post-graduate Resident, Surgical Unit-III, Sir Ganga Ram Hospital, Lahore

## ABSTRACT

**Introduction:** Female patients presenting in surgical emergency department often have an underlying gynaecological cause. The most common causes are ovarian pathologies such as cyst rupture or torsion, small gut perforation, gut adhesion and ureteric or urinary bladder injuries. These conditions may clinically resemble certain surgical causes of acute abdomen. Sometimes the diagnosis may only be confirmed per-operatively.

**Methodology:** A total of 79 females who were operated during the six months study period at the surgical emergency department of Sir Ganga Ram Hospital, Lahore, for some gynaecological pathology were included in the study. Routine laboratory and clinical investigations were conducted in all cases. The clinical history and diagnosis were recorded.

**Results:** The age range for patients was 15 to 47 years (mean age  $29.20 \pm 7.2$ ). Sixty-three patients (79.7%) were married and 16 (20.3%) were unmarried. Among these patients, 21.5% were nulliparous, 38% were primiparous and 40.5% were multiparous. The most common symptoms were nausea and vomiting (68.4%), peritonitis (63.3%) and fever (50.6%). Shock was observed only in 6 patients (7.5%). The most common etiology was ileal perforation (22.8%), rupture or torsion of ovarian cyst (20.3%) and adhesion of gut with uterus or ovaries (17.7%). Mortality was observed in 3 (3.3%) patients.

**Conclusion:** Gynaecological conditions requiring surgical management are commonly encountered on surgical emergency floor. The post-graduate trainees working in surgical and gynaecological emergencies must be trained to deal with such emergencies.

**Keywords:** gynaecological encounters, surgical emergency, acute abdomen.

## INTRODUCTION

While working in emergency on surgical floor a surgeon often encounters cases that usually fall under the domain of obstetrics and gynecology. This becomes particularly important in case of surgeons working in peripheries where timely decision and management can save life. In all the patients presenting in the emergency department acute abdomen constitutes about 10% of the cases. It is not infrequent that an acute abdomen primarily thought of as a surgical pathology, reveals an underlying gynecological cause. The frequency of gynaecological acute abdomen in surgical practice may vary from one facility to another. However, studies have shown an incidence of 4-35%<sup>(1)(2)</sup>.

The importance of these gynaecological encounters in surgical practice has long been emphasized. In one of the earlier studies conducted during 1960-70 the incidence of gynaecological emergencies presenting on the surgical floor was recorded to be 9.6%<sup>(3)</sup>. Even with the advancement in diagnostic techniques in the recent decades the incidence of these

gynaecological encounters in surgical practice still remains high. Studies have shown that almost 28% of the females diagnosed clinically as appendicitis have an underlying gynaecological pathology<sup>(4)</sup>. The most commonly encountered pathologies include ovarian cyst rupture, torsion of adenexa, mittelschmerz, endometriosis, fibroids, pelvic inflammatory disease and iatrogenic uterine perforations<sup>(5)</sup>. Such cases if not timely managed can result in significant morbidity and mortality.

The signs and symptoms of certain surgical and gynaecological emergencies show similarity and a gynaecological cause may only become evident peroperatively. The diagnosis usually relies on detailed history and clinical examination assisted by radiological investigations particularly ultrasonography. Studies have shown that in case of gynaecological emergencies the sensitivity of ultrasound is not very high and 30-75% of the cases may be misdiagnosed<sup>(6)</sup>. Recognition of such cases with gynaecological etiology is an integral part of practice of surgery and the residents working in gynaecology or surgical units must be educated to deal with such cases<sup>(7)</sup>. The

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present study is therefore designed to find out the most common gynaecological conditions that mimic surgical pathologies so that they can be anticipated and proper management can be done.

### MATERIALS AND METHODS

The study is a descriptive case series that was carried out at the surgical emergency department of Sir Ganga Ram Hospital, Lahore, which is a 550 bed tertiary care hospital. It was conducted during the 6 months period from 1<sup>st</sup> of January to 30<sup>th</sup> of June, 2014. A total of 79 females, between the age of 15-55 years of age, that were admitted to the surgical emergency department with acute abdomen or were referred from gynaecology department due to any gynaecological etiology were included in the study. The cases were selected by non-probability consecutive sampling and the patients confirmed pre-operatively or on preoperative findings to have an underlying gynaecological pathology were included. Personal and demographic details such as age, address, marital status and parity were recorded. These patients were followed till discharge or death to record the treatment outcome. Patients managed conservatively were excluded from the study.

The clinical management comprised of immediate resuscitation followed by detailed history, physical examination and laboratory and radiological workup. Common symptoms such as fever ( $\geq 99^{\circ}\text{F}$ ), nausea and vomiting, pain in right iliac fossa, peritonitis, generalized abdominal pain and shock (systolic B.P  $<60$  mmHg) were recorded. Baseline investigations such as complete blood count, blood glucose levels, urine complete, renal and liver function tests were carried out in all the patients in addition to specific laboratory test where indicated. Ultrasound and x-ray abdomen was carried out in all the study subjects. The final diagnosis was confirmed by a consultant surgeon with at least 5 years post fellowship experience. All the 79 cases were operated under general anaesthesia and pre and post operative antibiotic cover and intravenous fluids were given. The outcome variables included the common symptoms, cause of acute abdomen and treatment outcome such as mortality or discharge. All this data was collected on pre-designed data collection forms.

#### Data Analysis:

Data was entered into SPSS version 18.0 and analyzed using its statistical package. Quantitative

variables such as age were presented in mean  $\pm$  S.D. Qualitative variables such as causes of gynaecological acute abdomen, common symptoms and treatment outcome were presented as frequencies and percentages.

### RESULTS

A total of 79 female patients were operated at the surgical emergency department of Sir Ganga Ram Hospital, Lahore, for underlying gynaecological conditions during the study period from 1<sup>st</sup> of January 2014 to 30<sup>th</sup> of June 2014. The age range for patients was 15 to 47 years with mean age  $\pm$ SD of  $29.20 \pm 7.2$ . The age wise split up of cases show that 48.1% of the patients belonged to 25-34 years age group. This was followed by 15-24 years and 25-44 years category which were 25.3% and 22.8%, respectively. The age wise break-up patients is presented in table 1.

**Table 1:** Age-wise break up of gynaecological encounters at surgical emergency department during 01-01-14 to 30-06-14

Age group	Frequency (n)	Percent (%)	Cumulative Percent (%)
15-24 years	20	25.3	25.3
25-34 years	38	48.1	73.4
35-44 years	18	22.8	96.2
>45 years	3	3.8	100.0

Out of the total 79 patients, 63 patients (79.7%) were married and 16 patients (20.3%) were unmarried. Parity was also recorded which showed that 17 patients (21.5%) were nulliparous, 30 patients were primiparous (38%) and 32 patients (40.5%) were multiparous (Table 2). Various common symptoms at the time of presentation were also noted. The most common symptoms observed were nausea and vomiting (68.4%), followed by peritonitis (63.3%) and fever  $\geq 99^{\circ}\text{F}$  (50.6%). Shock (systolic B.P  $<60$  mmHg) was observed only in 6 patients (7.5%). Table 3 shows the frequency of various signs and symptoms that were reported in the patients.

Among the causes of acute abdomen the most common cause was ileal perforation which was observed in 18 (22.8%) of patients. Rupture or torsion of ovarian cyst was recorded in 16 (20.3%) patients. Adhesion of gut with uterus or ovaries

was present in 14 (17.7%) of patients. Table 4 enumerates various causes of gynaecological acute abdomen that were in the study subjects. Out of 79 patients 76 (96.2%) were treated and discharged and mortality was observed in 3 (3.3%) patients. These three patients included patients with the diagnosis of 4<sup>th</sup> degree perineal tear, rectal perforation and multiple gut injuries.

**Table 2:** Parity of gynaecological encounters at surgical emergency department during 01-01-14 to 30-06-14

Parity	Frequency (n)	Percent (%)	Cumulative Percent (%)
Nulliparous	17/79	21.5	21.5
Primiparous	30/79	38.0	59.5
Multiparous	32/79	40.5	100.0

**Table 3:** Common signs and symptoms of gynaecological encounters at surgical emergency department during 01-01-14 to 30-06-14

Signs and Symptoms	Frequency (n)	Percentage (%)
Nausea and vomiting	54/79	68.4
Peritonitis	50/79	63.3
Fever ( $\geq 99^{\circ}\text{F}$ )	40/79	50.6
Right Iliac Fossa Pain	31/79	39.2
Generalizes Abdominal Pain	16/79	20.3
Shock	6/79	7.5

**Table 4:** Etiology of gynaecological acute abdomen at surgical emergency department during 01-01-14 to 30-06-14

Etiology	Frequency (n)	Percentage (%)	Cumulative Percentage (%)
Ileal perforation	18/79	22.8	22.8
Ovarian cyst rupture/torsion	16/79	20.3	43.1
Gut adhesions with uterus and ovaries	14/79	17.7	60.8
Urinary bladder injury	8/79	10.1	70.9
Ureteric injury	6/79	7.6	78.5
Multiple gut transaction	5/79	6.3	84.8
Sigmoid colon perforation	5/79	6.3	91.1
Rectal perforation	5/79	6.3	97.4
Meleney's gangrene following C/S	1/79	1.3	98.7
Fourth degree perineal tear after NVD	1/79	1.3	100
C/S: Caesarean Section, NVD: Normal vaginal delivery			

## DISCUSSION

Gynaecological encounters are quiet frequent in practice of general surgery. In surgical emergency of Sir Ganga Ram Hospital, Lahore, 79 patients presented, during the 6 months study period, with acute abdomen that was attributed to some underlying gynaecological pathology. The mean age of all the patients was 29.2 years. Most of the patients belonged to the middle age group. Almost half of these patients were in the age range of 25-34 years. A local study from Kasur has also reported similar results with majority of the patients falling in this age category<sup>(8)</sup>. In our study it was found out that almost 80% of the patients were married and more patients were primiparous or multiparous as compared to nulliparous. In their

study, Pokharel *et al.*, also observed similar trends in which more than 90% of the patients presenting with gynaecological emergencies were married<sup>(9)</sup>. Females undergoing delivery, particularly in peripheries with limited expertise and facilities, are more prone to develop traumatic injuries and present with acute abdomen.

Acute abdomen and lower abdominal pain can occur in a variety of gynaecological and surgical conditions and can make the diagnosis difficult. The most common signs and symptoms observed in this study were nausea, vomiting, peritonitis, fever and right iliac fossa tenderness. Shock was observed only in a few patients. Different studies have shown these common signs and symptoms in varying degrees of occurrence. Ateeq *et al.*, observed that peritonitis was the most common

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clinical symptom and occurred in most of the patients. Peritonitis was followed by nausea, vomiting and pain in right iliac fossa<sup>(10)</sup>. Other studies have also reported similar symptoms but with slightly varying frequencies and have recommended the use investigations such as ultrasound to make a certain diagnosis<sup>(11)</sup>.

The results from this study show that the most commonly observed pathologies include ileal perforation, ovarian cyst rupture or torsion and gut adhesion. Urinary bladder or ureteric injury, multiple gut transaction, sigmoid colon or rectal perforation were also observed but in a relatively few cases. Many other studies on the etiology of gynaecological conditions presenting in surgical emergencies have mentioned similar findings. Ovarian pathologies such as ovarian cyst rupture or torsion has been observed as the most common gynaecological encounter on the surgical floor<sup>(9)</sup><sup>(10)</sup>. Study by Unal *et al.*, showed that gut adhesions was the most common gynaecological pathology causing acute surgical abdomen<sup>(12)</sup>. Stewart *et al.*, has reported ectopic pregnancy to be the most common gynaecological surgical emergency<sup>(13)</sup>. The current study has not included ectopic pregnancy cases as they were referred to gynaecology department for further management. Result from the current study and the previous studies mentioned above show that gynaecological emergencies are frequently encountered in practice of general surgery. Therefore, as a surgeon one must be prepared to handle these common gynaecological emergencies.

### CONCLUSION

Surgical conditions such as acute abdomen can very often be due to an underlying gynaecological condition. The clinical sign and symptoms are often misleading and in certain cases the diagnosis may only be confirmed per-operatively. To deal with such cases an inter-disciplinary approach is required with collaboration between surgical and gynaecology departments working in the emergencies. It is therefore, recommended that post-graduate trainees working in surgical and gynaecological emergencies must be trained to deal with such emergencies.

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