

## Ruptured Ovarian Cyst, Epidemiology and Description of Patient's Clinical Profile

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### ABSTRACT

**Background:** Ruptured ovarian cysts are common gynaecological presentation to health institutions most commonly presented with abdominal pain.

**Objective:** Describe the clinical profile of cases diagnosed to have ruptured ovarian cysts.

**Methodology:** The current study is a case series study conducted in Al-Jumhory and Al-Salam Teaching Hospitals in Mosul. During the period from 1<sup>st</sup> Jan. to the end of October. 2021. The study subjects include 64 females' presented to the involved hospitals and diagnosed to have ruptured ovarian cysts.

**Results:** About 70% of participants were in the age group 11-26 years. More than half of the study population reports primary school education compared to only 15% of cases who report university level of education. Also, it has been found that 27 patients (41.67 %) were married. The majority of cases were diagnosed to have right ovarian cyst, moreover, 70.31% of patients presented with right Iliac fossa pain. Nausea, and vomiting was reported by 85.94% and 60.94% of study population respectively. on the other hand, vaginal bleeding was observed among only 15.63%.

**Conclusion:** The frequency of ovarian cyst rupture is relatively high among younger women, and in lower educational levels women, whereas positive family history of ovarian cyst rupture was infrequent.

**Keywords:** Ruptured, Ovarian, Cyst .

## تمزق كيس المبيض الوبائية ووصف الخصائص السريرية للمرضى

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### الخلاصة

**الخلفية:** تمزق تكيسات المبيض هو عرض شائع لأمراض النساء للمؤسسات الصحية والعرض الأكثر شيوعاً هو الآم في البطن.

**الهدف:** وصف الخصائص السريرية للحالات التي تم تشخيصها على أنها تمزق تكيسات المبيض.

**المنهجية:** الدراسة الحالية عبارة عن دراسة سلسلة الحالات أجريت في مستشفى الجمهوري التعليمي ومستشفى السلام التعليمي. خلال الفترة من ١ يناير إلى ١ نوفمبر ٢٠٢١. شملت الدراسة ٦٤ مريضة من الإناث اللواتي قُدمن إلى المستشفيات المعنية وتم تشخيصهن على أنهن مصابات بتمزق تكيسات المبيض.

**النتائج:** أظهرت الدراسة أن حوالي ٧٠٪ من المشاركات كانوا في الفئة العمرية ١١-٢٦ سنة. أكثر من نصف مجتمع الدراسة أكملن التعليم الابتدائي مقارنة بـ ١٥٪ من الحالات اللاتي أكملن التعليم الجامعي. كما يتضح أن ٢٧ مريضة (٤١.٦٧٪) كانوا متزوجات. تم تشخيص غالبية الحالات بأنها مصابة بكيس المبيض الأيمن ، علاوة على ذلك ، فإن ٧٠.٣١٪ من المرضى يعانون من ألم الحفرة اللفائفي الأيمن. تم الإبلاغ عن الغثيان والقيء بنسبة ٨٥.٩٤٪ و ٦٠.٩٤٪ من مجتمع الدراسة على التوالي. من ناحية أخرى ، لوحظ تزييف مهليبي بين ١٥.٦٣٪ من الإناث المصابات.

**الخلاصة:** إن تواتر تمزق كيس المبيض مرتفع نسبياً عند النساء الأصغر سناً ، وفي النساء الأقل تعليماً ، في حين أن التاريخ العائلي لتمزق كيس المبيض لم يكن متكرراً.

**الكلمات المفتاحية :** تمزق، كيس، المبيض .

**INTRODUCTION**

Ovulation can cause unilateral or bilateral ovarian cysts. Patients with ruptured ovarian cysts frequently presented to hospitals with abdominal pain <sup>1</sup>. Ovarian cyst prevalence is uncertain because many individuals are thought to be asymptomatic and went undetected. The majority of ovarian cysts are benign, functioning growths that don't need to be surgically removed. However, complications from ovarian cysts, including pelvic pain, cyst rupture, blood loss, and ovarian torsion, must be treated very quickly <sup>2</sup>. Usually associated with physiological (functional) cysts, ovarian cyst rupture and hemorrhage are self-limiting <sup>3</sup>. Surgery can be required even though this problem resolves by its own if there is hemodynamic impairment or a connection with torsion <sup>4-6</sup>.

The aim of the present study is to describe the clinical profile of ruptured ovarian cysts among females consulting Al-Jumhury and Al-Salam Teaching Hospitals in Mosul City.

**PATIENTS AND METHODS**

The present study conducted in general surgery departments at Al-Jumhury and Al-Salam Teaching Hospitals in Mosul, over 10 months' period starting from Jan 1<sup>st</sup> to end of October 2021. All female patients who reported a history of abdominal pain and underwent laparotomy with a definite diagnosed ruptured ovarian cyst were included in this study.

In order to achieve the aim of this research a case series study design was adopted. Administrative and ethical agreements have been obtained from Directorate of Health (DOH) in Ninawa before the conduction of data collection.

A specially designed questionnaire form has been prepared for data collection, which is conducted by reviewing patient case records.

**RESULTS**

The present study sample includes 64 female patients who are admitted to the surgical unit complaining from ruptured ovarian cyst during the study period surgical department during the data collection period. The study showed that about 70% of participants were in the age group 11-26 years, and more than half of the study population reports primary school education compared to 15% of cases who report university level of education. (Table 1), regarding marital status 27 patients (41.67 %) were married.

Table 1: Frequency distribution of study population according to their socio demographic characteristic.

Socio demographic parameter		No.	(%)
Age Group in years	11 - 26	45	70.31 %
	27 - 42	13	20.31 %
	43 - 58	6	9.38 %
Education	Illiterate	9	13.78%
	Primary school	36	56.25%
	Secondary school	9	14.74%
	University	10	15.63%
Marital Status	Single	12	19.23%
	Married	27	41.67%
	Divorced	16	24.68%
	Widowed	9	14.42%
Family history of ovarian cyst	Positive	15	23.08%
	Negative	49	76.92%

Table (2) shows the clinical characteristics of the study population. It is evident that the majority (70.31%) of patients diagnosed to have right ovarian cyst, Moreover, around 55% presented with iliac fossa pain. Nausea and vomiting were reported by 85.94% and 60.94% of the study population respectively. On the other hand, vaginal bleeding was observed among 10 patients only (15.63%). Abdominal rigidity has been observed among More than 80% of the cases.

Table 2: frequency distribution of study population according to clinical characteristics

Clinical variable		No.	(%)
Ovarian cyst location	Right	45	70.31 %
	left	19	29.68 %
Abdominal pain location	Generalized	20	31.25%
	Central	9	14.06 %
	Iliac fossa	35	54.69 %
Nausea	Positive	55	85.93%
	Negative	9	14.06%
Vomiting	Positive	39	60.93%
	Negative	25	39.06%
Abdominal rigidity	Positive	52	81.25%
	Negative	12	18.75%
Abdominal tenderness	Positive	64	100%
	Negative	0	0%
Vaginal bleeding	Positive	10	15.62%
	Negative	54	84.37%

**DISCUSSION**

The most severely affected age group in the current study was 11-26 years old, which is similar to the results, found by Lee et al<sup>5</sup> in his study in Korea.

With regard to marital status, the study discovered that (41.67%) of the participants in the current study were married, which is less than what was found by Lawani et al.<sup>2</sup> in their study. While 33 out of the forty-four (or 75%) of the participants in the study were married.

Among the study sample, there were 56.25% who completed primary education only, while that percentage decreases with the increase in the level of education and this is consistent with several studies in this field, including the study Mobeen<sup>7</sup>, it is possible that this is due to the fact that educated women have good knowledge about the risk factors leading to ovarian cyst rupture and the need to consult a gynecologist frequently, while women with low education are not.

The present study found that 76.92% of women who suffer from ovarian cyst rupture did not have any family history of ovarian cyst rupture, and this is similar to what was found by another study conducted by Agrawal et al.<sup>8</sup>

The current study found that most women (54.69%) suffer from pain in Iliac fossa, while generalized abdominal pain was reported by 31.25% of patients. This result is consistent with that reported by other study conducted by White.<sup>9</sup>

A study conducted by Pienkowski et al in France in Toulouse showed that about 60% of patients present with vomiting accompanied by abdominal pain. This is very close to what we found in our study.<sup>10</sup>

Abdominal rigidity is usually present when the ovarian cyst ruptures and this is what the current study found, as 81.25% had abdominal rigidity. This is in agreement with the results of many studies such as the study Moslemi et al<sup>11</sup> and Dhakal et al<sup>12</sup>.

One of the first major clinical signs of diagnosing ovarian cyst rupture is abdominal tenderness, as the study found that 100% of patients had abdominal tenderness, and this is what all researches that studied ovarian cyst rupture have found, such as Abduljabbar et al.<sup>13</sup>

Ovarian cysts may cause vaginal bleeding. However, it is difficult to attribute the vaginal bleeding in study sample to the presence of the autonomous cyst, this is consistent with the study conducted by Altuntas et al.<sup>14</sup>

## CONCLUSIONS

The frequency of ovarian cyst rupture is relatively high in younger women, and in less educated women, whereas family history of ovarian cyst rupture was not frequent. Ruptured ovarian cyst is usually accompanied by severe pain in general in addition to nausea and vomiting.

## RECOMMENDATION

It is necessary to identify the most vulnerable cases of ovarian cyst rupture and to conduct educational courses on the risks. In addition, it is necessary to conduct other studies on the rupture of the ovarian cyst and the factors that increase the risk of infection.

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