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Ovarian torsion: A case series

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Abstract
Aims and Objectives: The aim of the study was to analyse risk factors, surgical outcomes, ovarian salvage rate, and mass histopathology. Objectives of the study was to draw the attention to the clinical, sonographic, surgical, and pathological signs and symptoms and characteristics of histologically proven ovarian torsion instances.
Method: This study took place at the Department of Obstetrics and Gynecology, Kamineni Institute of Medical Sciences in Narketpally from July 2021 to July 2022. Retrospective analyses of demographic, clinicopathological, surgical, and sonographic data were performed on 16 patients with ovarian torsion who underwent surgery. All instances of sudden, severe, acute abdomen pain were looked at clinically and radiologically. After receiving the findings, emergency surgery was performed.
Result: 31 was the mean age. Pelvis or abdominal pain was the major complaint in our investigation. A pre-existing ovarian mass is a significant risk factor for torsion. 60% had emergent exploratory laparotomy, 40% laparoscopic operation. 40% had cystectomy, 60% oophorectomy. Most prevalent was serous cystadenoma.
Conclusion: Study shows that ovarian torsion causes abdominal or pelvic pain. Pre-existing ovarian mass is a risk factor for torsion. Ovarian torsion can develop at any age. Ultrasound imaging is most frequently used to assess torsion but confirmative diagnosis by intraoperative finding. To preserve ovarian tissue, act quickly.

Keywords: Ovarian torsion, histopathology, cyst, laparoscopy

Introduction
Since ovarian torsion can happen to women of any age, there is always the potential for an emergency situation to arise in the field of gynaecology when dealing with this condition. If not addressed, ovary has the ability to twist over its own pedicle, which can cut off its blood supply and result in ischemia necrosis (death from lack of oxygen to the tissue). Due to its diverse imaging properties and unclear symptoms, ovarian torsion can be challenging to diagnose, which can result in a delay in diagnosis and a high rate of misunderstanding. This can be problematic for patients [1, 2]. It is absolutely necessary to get an early diagnosis in order to prevent major morbidity and preserve the functionality of the ovaries and tubes. This can be accomplished by getting a diagnostic as soon as possible. Imaging can shed some light on the potential diagnosis, but intraoperative finding is the only method that can provide a firm answer. Surgery is the gold standard for identifying and treating ovarian torsion because of its high success rate. Laparoscopy and laparotomy are both surgical methods that can be utilised to perform the desired surgical treatment [1, 2].
Despite the fact that ovarian torsion is most common in women of reproductive age, anyone of any age might be affected by this ailment. The torsion of the ovarian pedicle causes the limitation of venous drainage and arterial blood flow, which leads to edema, an inflammatory reaction, ischemia, and eventually necrosis of the tissue. Torsion of the ovarian pedicle can be prevented by avoiding torsion [2, 3, 4]. The patient initially complaints of abrupt abdominal pain when they arrive at the hospital. This may be followed by other symptoms such as nausea, vomiting, indications of peritoneal irritation, and leukocytosis. Doppler and grayscale sonography are the primary imaging modalities that are utilised for these individuals during the initial assessment. Other imaging modalities, such as colour Doppler, may also be utilised [3, 4].

Material and Methods
The study was conducted in the Department of Obstetrics and Gynecology, Kamineni Institute of Medical Sciences, Narketpally between the months of July 2021 and July 2022.

In this study, there were a total of 16 subjects who were diagnosed with ovarian torsion and underwent surgery. After the procedures, the individuals were evaluated retrospectively in terms of demographical, clinicopathological, surgical, and sonographic outcomes. Both clinical and radiological assessments were performed on all of the patients who presented with symptoms of abdominal pain which was acute and sudden in onset. Following the conclusion of the diagnostic process, an immediate operation was carried out.

Result

Table 1: Distribution of patient age (n=16)

Age (In years)	Number of Patients (n=16)	Percentage of Patients (%)
10-20	3	18.75
21-30	3	18.75
31-40	8	50
41-50	0	0
51-60	2	12.5

Table 2: Distribution of patient according to the parity (n=16)

Parity	Number of Patients (n-16)	Percentage of Patients (%)
Unmarried	5	31.25
Nulliparous	4	25
Multiparous	6	37.5
Grand multiparous (>/=5)	1	6.25

Table 3: Distribution of patient according to clinical features

Clinical Features	Number of Patients (n=16)	Percentage of Patients (%)
Pain	16	100
Nausea/vomitings	7	43.75
Fever	4	25
Tenderness	16	100
Rebound tenderness	4	25

Table 4: Distribution of patients according to radiological finding

Radiological findings	Number of patients (n-16)	Percentage of patients (%)
Presence of cyst	14	87.5
Edematous ovary	2	12.5

Table 5: Distribution of patients according to cyst size

Cyst Size (In Cm)	Number of Patients (n=16)	Percentage of Patients (%)
UPTO 5	4	25
5-10	7	43.75
>10	5	31.25

Table 6: Distribution of patients according to type of surgery

Type of Surgery	Number of Patients (n=16)	Percentage of Patients (%)
Laparoscopic	7	43.75
Laparotomy	9	56.25

Table 7: Distribution of patients according to procedure done

Procedure Done	Number of Patients (n-16)	Percentage of Patients (%)
Oophorectomy	9	56.25
Cystectomy	7	43.75

Table 8: Distribution of patients according to histopathological report

Histopathological report	Number of Patients (n-16)	Percentage of Patients (%)
Simple cyst	3	18.75
Dermoid cyst	1	6.25
Serous Cystadenoma	8	50
Mucinous cystadenoma	4	25

Discussion

Despite the fact that ovarian torsion is most common in women of reproductive age, this ailment can reveal itself in persons of any age. There are a variety of conditions that share many of the symptoms and indications that are associated with ovarian cyst torsion. One of these conditions is ovarian cancer. Acute appendicitis, ovarian cyst rupture, tubal ovarian abscess, pelvic inflammatory disease, and ectopic pregnancy are some of the other disorders that fall under this category [4, 6] it is not unusual for ovarian cyst torsion to be difficult to detect due to clinical characteristics that have a low sensitivity and specificity. This can be frustrating for the patient. Patients who frequently present with discomfort and have a pelvic mass measuring 5 centimetres or bigger on imaging have a sensitivity of 83% for the diagnosis of ovarian torsion. Ultrasound imaging is most frequently used to assess torsion [5].

Patients who have a strong clinical suspicion that they have torsion are not appropriate candidates for CT imaging. Imaging properties of CT scans usually indicate an ovary that is enlarged in an asymmetrical manner. This is commonly seen in women who have ovarian cancer. As a result of the fact that they delay therapy, MRIs are only performed on patients who are in a precarious medical state; as a result, their utilisation is extremely limited. On an MRI, the imaging features can be viewed most clearly using T2-weighted sequences that do not include fat saturation [6, 7]. This is because these sequences allow the imaging characteristics to be seen more clearly. When it comes to making a diagnosis of bleeding, T1-weighted sequences that include fat saturation are a diagnostic tool that has the potential to be beneficial. When it comes to the battle to keep ovarian tissue intact, the window of opportunity for intervention is of the utmost significance [7, 8].

Conclusion

Clinical diagnosis of ovarian torsion is challenging. The primary symptom of ovarian torsion was pain in the abdomen or pelvis. Pre-existing ovarian mass was the most common risk factor for torsion. Although ovarian torsion is most common in women of childbearing age, it can occur at any age. Patients typically come with pain and the presence of a pelvic mass, though ultrasound most frequently used to assess torsion, sometimes MRI is helpful in cases where diagnosis remain unclear and ultrasound findings are normal as MRI provides excellent soft tissue contract without ionizing radiation. Preserving ovarian tissue requires prompt intervention.

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