

Study of Adnexal Torsion Ovary in a Tertiary Care

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Abstract: ***Aims and Objectives:** Adnexal torsion is a rare gynaecological emergency that may require an early surgical intervention to save the adnexa from irreversible damage. Aim of the study is about clinical presentation and management approach of adnexal torsion in a tertiary care centre. Study Design: Study design is Descriptive record based study. **Materials and Methods:** Review of case records in OBG department at Father Muller Medical College from September 2016 to April 2018. **Results:** Adnexal torsion was found mainly in the reproductive age who mainly presented with pain abdomen. Ultrasound was the most commonly used imaging modality. Benign tumours predispose to torsion. Diagnosis of adnexal torsion was mostly intra operative by direct visualisation of the rotated adnexa. Laparoscopy was the preferred method of surgical intervention. Conservative surgeries were tried in majority of the child bearing age groups. **Conclusion:** Adnexal torsion is a rare emergency which requires a high index of clinical suspicion for diagnosis as the symptoms are non specific. Imaging helps in diagnosis but most of them are diagnosed intra operatively. Laparoscopic conservative surgery is the preferred surgical approach especially in younger age groups. An early surgical intervention helps in salvaging the adnexa and prevents further complications.*

Keywords: torsion, doppler ultrasound, laparoscopy

1. Introduction

Ovarian torsion is less common than other causes of acute pelvic pain such as pelvic inflammatory disease (PID), ovarian cyst, haemorrhage and appendicitis. Diagnosis usually relies on a combination of detailed clinical history and ultrasound findings, with a high index of suspicion for torsion¹. Attempts have been made for the prediction of torsion, using clinical history and imaging findings.² The clinical presentation of adnexal torsion, is with acute onset of pelvic pain but can be non-specific, frequently presenting diagnostic difficulties. Nausea and vomiting are also common presenting features, occurring in 85% of cases of ovarian torsion and low-grade pyrexia and sinus tachycardia may also be present.³

The ultrasound appearance of torsion of a normal ovary can be highly variable, representing the dynamic nature of the pathophysiological process⁴. It is therefore essential to be aware of the different possible ultrasound appearances and combine these with the clinical picture in order to make a swift diagnosis of ovarian torsion⁵. Unilateral ovarian enlargement and oedema appears to be the most consistent findings in the literature⁶. Doppler ultrasound shows no intra-ovarian venous flow and whirlpool sign of twisted vascular pedicle.

Computed tomography (CT) and magnetic resonance imaging (MRI) have been shown to be useful in the diagnosis of adnexal torsion and findings include enlargement of the ovarian stroma, tube thickening, ascites and uterine deviation to the affected side, with a good negative predictive value⁷. These modalities are expensive however, are less readily available than ultrasound and rarely provide additional diagnostic information⁸. MRI is more useful (and safe) in the second and third trimesters of pregnancy for diagnosing abdominal pain, where the ovaries and appendix are more difficult to visualise by ultrasound.⁹ The surgical management of adnexal torsion is clearly determined by many factors in addition to the macroscopic appearance of the adnexum; including age, menopausal status, presence of pre-existing ovarian pathology and desire to preserve fertility¹⁰

2. Materials and Methods

This study was undertaken after clearance from the ethical committee of father muller medical college. A descriptive record based study analysis of our hospital surgical registry for the year women in OBG department at Father Muller Medical College from September 2016 to April 2018 identified records of 12 patients 11009 with proven adnexal torsion.

Clinical information obtained from medical records included age, medical history, clinical signs and symptoms. Abdominal pain was defined as lower abdominal pain {pelvic}, diffuse pain and epigastric pain. The onset of pain till admission to the hospital was noted in days. Duration of associated symptoms was recorded in days. Fever with the body temperature exceeding 37.7deg¹¹, and Leukocytosis with WBC counts greater than 10, 800/mm³ was considered as clinically significant values¹². Imaging, operative findings and histopathological reports were obtained from the case records.

3. Clinical Presentation

Age: 6 out of 12 patients were from 18-30yrs, 2 were from 30-40yrs, 3 were from 40-50yrs and 1 was postmenopausal >50yrs of age.

(18-30yrs)	6
(30-40yrs)	2
(40-50yrs)	3
(>50yrs)	1

Pregnancy:

PARITY	POG	HPE
Primi	14	Dermoid cyst
G2P1L1	19	Serous cyst
G4P3L3	22	Mucinous cystadenoma

Symptoms

All the patients mainly complained of lower abdominal pain (100%), and 3 were associated with nausea and vomiting (25%), and 2 with fever (16.7%)

Pain abdomen	12
Pain abdomen + nausea and vomiting	3
Pain abdomen + fever	2

Imaging:

Ultrasound was performed in all cases and adnexal mass was reported. To further diagnose torsion ovary Doppler was further used in 2 cases and MRI was used in 1 case.

Ultrasound	8
Doppler ultrasound	4
MRI	1

CA-125: CA-125 was done for all the patients, 11 patients had <35, and 1 had > 35

<35	11
>35	1

Surgery

Laparoscopy was done in 9 cases, laparotomy for 2 as the size of the cyst was > 14cms, Abdominal hysterectomy +BSO was done as she was post menopausal.

Laproscopy	9
Laparotomy	2
Abdominal hysterectomy with BSO	1

Intra Operative

Intra operatively 7 cases had isolated torsion ovary and 4 with combined ovarian and fallopian tube, 1 patient underwent TAH + BSO as she was post menopausal. 3 patients had (5-10cms), and 9 had (>10cms), right sided was 8 patients and left sided it was 4 patients.

Isolated torsion ovary (oophorectomy)	7
Combined ovarian and fallopian tube (salpingo-oophorectomy)	4
TAH+BSO	1
SIZE-5-10CM	3
SIZE >10CM	9
Right side	8
Left side	4

Pathological Findings

Pathological examinations of all specimens were done and the results are listed below.

Dermoid	4
Follicular cyst	2
Simple Serous cyst	2
Serous Cystadenoma	1
Hemorrhagic corpus luteal cyst	1
Mucinous cyst	1
Paraovarian cyst	1

4. Discussion

6 out of the 12 patients were 18-30 years (50%) of age and 2 out of 12 were 30-40 years (16.7), 3 were at 40-50 years (25%) and 1 postmenopausal (8.33%).

3 were seen in pregnancy (25%). This shows that torsion ovary is more common in reproductive age group, of which can occur in pregnancy and more in second trimester.

Lower abdominal pain was the main symptom which is seen in all patients (100%), nausea, vomiting seen in 3 patients (25%), and fever in 2 cases (16.7%). According to the study done by spinelli 20% had fever. Abdominal mass was noted in 6 cases (50%) with tenderness in 4 cases (33.33%) and Leukocytosis in all cases (100%). Anaemia was reported preoperatively in 1 case (8.33%) and required blood transfusion postoperatively. In the study done by vijayaraghavan 47.6% had abdominal mass palpable.

Ultrasound was performed in all cases and 4 were reported to be doubtful, for further diagnosis of torsion Doppler was done in these cases and torsion was diagnosed (33.33%) which showed no intra-ovarian venous flow and whirlpool sign of twisted vascular pedicle. Thus Doppler ultrasound is preferred in diagnosis of torsion ovary. For 1 patient MRI was done (8.33) to confirm the diagnosis who was post menopausal. Other studies like Spinelli reported (63%), vijayaraghavan reported (95.2%). CA-125 was sent for all patients pre operatively and 11 patients had <35 and 1 had more than >35, which shows that majority was benign.

2 cases had laparotomy (16.7%) and 9 case underwent laparoscopy (75%), abdominal hysterectomy with BSO in 1 case (8.33%). out of 12 cases operated isolated torsion ovary in 7 case (58.33%) combined ovarian and fallopian tube 5 cases (41.7%),

The size of the mass in adnexal torsion was <5cm in 3 cases (25%), 5-10 cm in 9 cases (75%), right sided in 8 cases (66.7%) and left sided in 4 cases (33.33%).

4 out of 12 patients were dermoid cyst (33.3%), 2 were follicular cyst (16.7%), 2 were simple serous cyst (16.7%), 1 was serous cystadenoma (8.33%), 1 was paraovarian cyst (8.33%) 1 was mucinous cyst (8.33%).

On Comparison with Other Studies

Symptoms	Our Study	Our Study	Vijayaraghavan ¹³	Spinelli ¹⁴
Abdominal pain	12	100%	100%	100%
Nausea/Vomiting	3	25%		56.7%
Fever	2	16.7%		20.3%

No. of patients	12	21	30
18-50yrs	91.6%		
Pregnancy	25%	4.7%	
Post Menopause	8.33%		
Fever	16.7%		20%
Leucocytosis	100%		63.3%
Palable Mass	50%	47.6%	
Tenderness	33.33%	23.8%	
USG with Dopler (Diagnosed Torsion)	33.33%	95.2%	63%
Free fluid in POD	0		
Right sided	66.7%		70%
Left	33.33%		30%
Bilateral	0		
Size 5-10 cm	25%		
>10 cm	75%		
% Laproscopy	75%		40%
Abdominal hysterectomy with BSO	8.33%		
Laparotomy	16.7%		
Isolated torsion ovary	58.33%		60%
Combined ovarian and fallopian tube	41.7%		
Anemia	8.33%		

Pathological Findings

Dermoid	4	33.33%		16.7%
Follicular cyst	2	16.7%		
Simple Serous cyst	2	16.7%	47.6%	
Serous Cystadenoma	1	8.33%		
Hemorrhagic corpus leutal cyst	1	8.33%		
Mucinous cyst	1	8.33%		
Paraovarian cyst				

5. Conclusion

Adnexal torsion is frequently suspected in women with acute pelvic pain, but rarely confirmed. It is apparent that prompt diagnosis is dependent on clinical history and a high index of suspicion. Accurate and detailed history taking is highly important, both of the presenting complaint and of the previous gynaecological and surgical history. Physical examination may elicit an adnexal mass or adnexal tenderness but can be non-specific. Transvaginal ultrasound remains the first-line investigation; however Doppler ultrasound may be more useful in the second and third trimesters of pregnancy. The absence of radiological evidence suggestive of torsion does not necessarily exclude it and the decision to operate should be on clinical grounds if symptoms are severe. Prompt intervention to preserve ovarian function should be laparoscopic wherever possible and de-torsion the treatment of choice in prepubescent girls and women of reproductive age whose families are not complete, regardless of the colour of the ovary at the time of surgery. Oophorectomy may be the treatment of choice in older and postmenopausal women. In the presence of a non-functional ovarian cyst, cystectomy or interval cystectomy should be performed in younger women where vascularity is compromised..

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