

Adnexal torsion - A retrospective study in teaching hospital

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Abstract

Background: Adnexal torsion accounts for 3% of all gynaecological emergencies. It includes a spectrum of pathologies: ovarian torsion (rare), ovarian and fallopian tube torsion and isolated fallopian tube torsion (very rare). Ovarian torsion is defined as partial or complete rotation of the ovarian vascular pedicle causing obstruction to venous outflow and arterial inflow. When fallopian tube also twists with the ovary it is known as adnexal torsion². Torsion of the ovary, tube, or both or responsible for approximately 3% of all gynaecologic emergencies, while 30% of the cases occur during pregnancy. **Objectives:** To find out the prevalence, risk factors attributing to etiology of adnexal torsion, various clinical presentation, site of adnexal torsion, intra-operative findings and management. **Materials and Methods:** This is a retrospective study conducted in the department of OBG, Mandya Institute of Medical Sciences, Mandya, for a period of five years from January-2011 to December-2015. All cases of adnexal torsion diagnosed by clinical examination and ultrasonography were included in the study. **Results:** Thirty one (31) cases were included in the study period. Thirty (30) cases of adnexal torsion were confirmed by clinical and USG preoperatively and one case was confirmed intraoperatively. 48.3% (15) cases between 20-29 yrs of age of cases were present between 20 to 29 years. Twenty cases (64.5%) had prior history of tubal sterilisation as risk factor 17 cases (54.8%) had right sided adnexal torsion, followed by 13 cases (41.9%) on left side. Commonest histopathological feature in adnexal torsion was haemorrhagic infarction in 21 cases (67.74%), All cases underwent emergency laparotomy and salpingo ovariectomy (29 cases). Ovarian de-torsion and cystectomy was done in 2 cases (since 1yr). **Key Words:** Adnexal torsion.

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INTRODUCTION

Acute surgical emergencies of gynaecological origin occur in women of reproductive age of group and sometimes in adolescents¹. Ovarian torsion is defined as partial or complete rotation of the ovarian vascular pedicle causing obstruction to venous outflow and arterial inflow. When fallopian tube also twists with the ovary it

is known as adnexal torsion². Torsion of the ovary, tube, or both or responsible for approximately 3% of all gynaecologic emergencies, while 30% of the cases occur during pregnancy. Adnexal torsion results from the mobility of both of the supporting pedicles, and the infundibulopelvic and ovarian ligaments. During torsion, both pedicles are partially strangulated impairing blood flow. Venous flow is impaired first, followed by compromised arterial blood flow. This pathophysiology leads to congestion, adnexal edema, discolouration, ischemia, and eventually necrosis³. It is usually associated with a cyst or a tumour, the commonest being benign mature cystic teratoma⁴. Ultrasound is the most common initial approach for diagnosis of adnexal mass with Doppler flow to rule out torsion.

MATERIAL AND METHODS

This is a retrospective study conducted in department of OBG, Mandya Institute of Medical Science, Mandya,

India, for a period of five years from January 2011 to December 2015. All cases of adnexal torsion admitted during this period will be included in the study. All case records will be obtained from medical record section, MIMS, Mandya and will be carefully analysed to find out the prevalence, risk factors attributing to etiology of adnexal torsion, various clinical presentation, site of adnexal torsion, intra operative findings and management options will be studied.

Objective of the study: To find out the prevalence, various clinical presentations of adnexal torsion in relation to age, parity, the site of adnexal torsion and relation to the medial or lateral rotation and to correlate with the histopathological diagnosis and find out the various treatment modalities for adnexal torsion.

Inclusion Criteria: All cases of adnexal torsion diagnosed by clinical and ultrasonography admitted during the study period.

Exclusion Criteria: All cases of adnexal mass without torsion.

RESULTS

Thirty one (31) cases were included in the study period. Thirty (30) cases of adnexal torsion were confirmed by clinical and USG preoperatively and one case was confirmed intraoperatively. All cases underwent emergency laparotomy and salpingo ovariectomy (29 cases). Ovarian de-torsion and cystectomy was done in 2 cases (since 1yr).

Table 1: Relationship of adnexal torsion in relation to Age

Age(yrs)	Total no of cases(31)
<19	4(12.9%)
20-29	15(48.3%)
30-39	07(22.5%)
40-49	04(12.9%)
50 and above	01(3.2%)

In our study adnexal torsion was found in 48.3% (15) cases between 20-29 yrs of age, followed by 22.5% (7) cases between 30-39 yrs and 12.9% (4) cases below 19 yrs.

Table 2: Relationship of risk factors associated with adnexal torsion

Risk factors	Total no of cases(31)
h/o Tubectomy	20(64.5%)
Previous surgery(Post LSCS)	03(9.6%)
Pregnancy	
1 st Trimester(02)	03(9.6%)
2 nd Trimester(01)	
Prior ovarian disease	
1 Mucinous cystadenoma(04)	
2 Serous cystadenoma (04)	10(32.2%)
3 Dermoid cyst(01)	
4 Follicular cyst(01)	

Twenty cases (64.5%) had prior history of tubal sterilisation as risk factor. Three cases (9.6%) occurred during pregnancy and 10 cases (32.2%) had a prior history of ovarian disease as a risk for adnexal torsion.

Table 3: Relationship of clinical symptoms

Clinical Symptoms	Total no of cases(31)
Pain abdomen	28(90.3%)
Pain abdomen and Vomiting	31(100%)
Pain abdomen and Vomiting and Fever	03(9.6%)

All thirty one cases (100%) presented with pain abdomen and vomiting, Twenty eight cases (90.3%) presented with pain abdomen and only 3 cases (9.6%) had pain abdomen, vomiting and fever.

Table 4: Relationship of site of adnexal torsion

Site of torsion	Total no of cases (31)
Right side	17(54.8%)
Left side	13(41.9%)
Bilateral	01(3.2%)

17 cases (54.8%) of adnexal torsion was on right side followed by 13 cases (41.9%) on left side. There was one case of bilateral torsion.

Table 5: Histopathological specimen report of adnexal torsion

Histopathological	No of cases(31)
Serous cystadenoma	4(12.9%)
Mucinous cystadenoma	4(12.9%)
Dermoid cyst	1(3.2%)
Follicular cyst	1(3.2%)
Haemorrhagic infarction	21(67.74%)

Commonest histopathological feature in adnexal torsion was haemorrhagic infarction in 21 cases (67.74%), followed by 12.9% (4) cases of serous cystadenoma and mucinous cystadenoma.

Table 6: Complications among adnexal torsion

Complications	Total no of cases -8
Bowel adhesions	04
Haemoperitoneum	03
Post operative pelvic hematoma	01

Out of 31 cases of adnexal torsion 4 cases had bowel adhesions, 3 cases was associated with hemoperitoneum and one case had pelvic hematoma postoperatively.

DISCUSSION

The present study was undertaken to evaluate the various risk factors attributing to etiology of adnexal torsion, various clinical presentation, site of adnexal torsion, intraoperative findings and management during January 2011 to December 2015. 48.3%¹⁵ cases between 20-29 yrs of age of cases were present between 20 to 29 years. This correlated with the study conducted by Sahul z *et al*(53 cases) in 2014 where 62% were present between 20-29 yrs. Twenty cases (64.5%) had prior history of

tubal sterilisation as risk factor Three cases(9.6%) occurred during pregnancy and 10 cases (32.2%) had a prior history of ovarian disease as a risk for adnexal torsion. All thirty one cases (100%) presented with pain abdomen,90.3% had pain abdomen and vomiting which was almost similar to study conducted by Shadinger *et al*⁵ (39 cases) in 2008 where abdominal pain was present in 100% and nausea vomiting in 65% cases. 17 cases (54.8%) had right sided adnexal torsion, followed by 13 cases (41.9%) on left side. This correlated with the study by Yaakov melcer *et al*⁶ (199 cases) in 2015 where 62.5% were on right side and 36.5% had left sided adnexal torsion. Commonest histopathological feature in adnexal torsion was haemorrhagic infarction in 21 cases (67.74%), followed by 12.9%⁴ cases of serous cystadenoma and mucinous cystadenoma. Out of 31 cases of adnexal torsion 4cases had bowel adhesions, 3 cases was associated with hemoperitoneum and one case had pelvic hematoma postoperatively. All 31 cases were diagnosed by Ultrasound with Doppler preoperatively and confirmed intraoperatively.

CONCLUSION

Adnexal torsion is a gynaecological emergency requiring immediate surgical intervention by either laparoscopy (ideally) or laparotomy and to preserve the ovaries as

much as possible by doing ovarian detorsion and ovarian cystectomy as per the recent studies in order to preserve the ovarian function and future fertility. Ultrasound with doppler proves to be a better diagnostic tool in diagnosing adnexal torsion as in our study.

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