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Adnexal Torsion in Adolescents - Case Series

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ABSTRACT

BACKGROUND

Adnexal torsion, includes torsion of a normal or pathological ovary, torsion of the fallopian tube, Para tubal cyst, or a combination of these conditions, and is fifth most common gynecological emergency. Thirty percent of all cases of adnexal torsion occur in females younger than 20 years. Approximately 5 of 100,000 females aged 1-20 years are affected, with girls older than 10 years at increased risk because of hormonal influences and gonadal growth that result in an increased frequency of physiologic and pathologic masses. The risk of torsion increases when pelvic masses exceed 5 cm 7. The most common ovarian pathologies found in adolescents with adnexal torsion are benign functional ovarian cysts and benign teratomas.

METHODS: The study was a retrospective observational study, carried out in the R L Jalappa hospital, kolar. Status of adolescents who presented with pain abdomen and was diagnosed as adnexal mass with torsion, this was studied between J JANUARY 2024 and MARCH 2025 after taking exclusion and inclusion criteria into consideration. Following details were noted which included clinical history, examination, investigations and treatment, ultrasound reports were reviewed and obtained.

INCLUSION CRITERIA: All cases of adnexal torsion in adolescents.

EXCLUSION CRITERIA: Age more than 18 years

RESULTS:

CONCLUSION: Adnexal torsion eventually leads to ovarian and possibly fallopian tube infarction; thus, prompt diagnosis is critical to salvage the ovary. A high index of clinical suspicion is required in cases of sudden-onset pelvic pain when it is associated with nausea or vomiting, particularly in premenopausal patients.

Therefore, a high index of suspicion coupled with ultrasonographic evidence and adequate clinical presentation reduces morbidity and complications of the disease. Rapid diagnosis and surgical intervention are the keys to recovery

Keywords: *Adnexal mass, Torsion , Adolescents*

1. INTRODUCTION

Adnexal torsion, includes torsion of a normal or pathological ovary ,torsion of the fallopian tube ,paratubal cyst ,or a combination of these conditions, and is fifth most common gynecological emergency.Thirty percent of all cases of adnexal torsion occur in females younger than 20 years. Approximately 5 of 100,000 females aged 1-20 years are affected, with girls older than 10 years at increased risk because of hormonal influences and gonadal growth that result in an increased frequency of physiologic and pathologic masses.

The risk of torsion increases when pelvic masses exceed 5 cm 7. The most common ovarian pathologies found in adolescents

with adnexal torsion are benign functional ovarian cysts and benign teratomas.Torsion of malignant ovarian masses in this population is rare.Sixty-four percent of torsions occur on the right side. The lower rate of torsion on the left side is attributed to the protective nature of the descending colon. In contrast to adnexal torsion in adults, adnexal torsion in pediatric and adolescent females involves an ovary without an associated mass or cyst in as many as 46% of cases.

Congenitally long ovarian ligaments, excessive laxity of the pelvic ligaments, or a relatively small uterus that allows more space for the adnexa to twist on its axis may be predisposing factors.

Rare cases of isolated tubal torsion and bilateral adnexal torsion are reported in the pediatric literature, and they are almost always associated with tubal pathology, such as hydrosalpinx or paratubal cyst. If ovarian torsion is suspected, timely intervention with diagnostic laparoscopy is indicated to preserve ovarian function and future fertility..

2. MATERIALS & METHODS

The study was a retrospective observational study, carried out in the R L jalappa hospital,kolar. Status of adolescents who presented with pain abdomen and was diagnosed as adnexal mass with torsion , this was studied between JANUARY 2024 and MARCH 2025 after taking exclusion and inclusion criteria into consideration. Following details were noted which included clinical history, examination, investigations and treatments , ultrasound reports were reviewed and obtained.

INCLUSION CRITERIA:

- All cases of adnexal torsion in adolescents .

EXCLUSION CRITERIA: Age more than 18 years

OBJECTIVE:

1.To study the etiology of ovarian torsion

2. To summarise the evaluation steps for ovarian torsion

3. To outline the management options available for ovarian torsion.

CASE SERIES

Case 1: A 13 year old girl presented with pain abdomen and distension.On examination vitals stable and on per abdomen examination there was 10*8cms cystic mass on the left side which was mobile and evaluated further. Ultrasound abdomen revealed a dermoid cyst of ovarian origin (more likely) or mucinous cystadenoma (less likely). She underwent laparoscopic ovarian cystectomy with left oophorectomy.Intraoperatively there was necrosed left ovarian torsion of 10*15cms and histopathology revealed as dermoid cyst. Postoperative period was uneventful.

Case 2:

A 18 year old girl presented with pain abdomen.On examination vitals stable and on per abdomen examination it was soft and non tender. Ultrasound abdomen and pelvis revealed a anechoic cystic lesion measuring 7.8*6.3*6.7cm in the left adnexa with no significant vascularity.Patient underwent laparoscopic ovarian cystectomy with left oophorectomy.Intraoperatively there was necrosed left ovarian torsion of 8*5cms and histopathology revealed as features consistent with torsion of ovary. Postoperative period was uneventful.

Case 3: A 18 year old girl presented with pain abdomen and history of weight loss. On examination vitals stable and on per abdomen examination there was a 20*28cm mass was felt, tenderness was present over the mass.CECT abdomen and pelvis revealed a large cystic mass arising from left adnexa with associated hydronphrosis,and a large thin walled cystic lesion in right adnexa of size 15.5*12.4*10.3cm.Patient underwent left oophorectomy with right ovarian cystectomy.Intraoperatively there was necrosed left ovarian torsion of 20*24cms and right sided simple ovarian cyst of size 15*10cm histopathology revealed as features consistent with torsion of left ovary and right sided mucinous cystadenoma. Postoperative period was uneventful

Case 4:

A 19 year old girl presented with pain abdomen and one episode of vomiting.On examination vitals stable and on per abdomen examination tenderness was present in the right iliac fossa. USG abdomen and pelvis revealed a well defined cystic mass arising from right adnexa of 7.4*6.2*7.1cm.Patient underwent diagnostic laparoscopy with right saplingo-oophorectomy Intraoperatively there was a right sided dermoid cyst of 10*7cms and two loops of torsion was noted involving the fallopian tube and necrosis of right ovary and fallopian tube noted. Histopathology revealed as features consistent with dermoid cyst. Postoperative period was uneventful.

Case 5:

A 17 year old girl presented with pain abdomen. On examination vitals stable and on per abdomen examination tenderness was present in the right iliac fossa, cystic mass of 6*8cm, cystic in consistency,mobile.USG abdomen and pelvis revealed a

anechoic cystic mass arising from right adnexa.Patient underwent laparoscopic right ovarian cystectomy.Intraoperatively there was a right sided ovarian serous cyst of 10*7cms. Histopathology revealed as features consistent with serous cyst. Postoperative period was uneventful.

Case 6: A 16 year old girl presented with pain abdomen.On examination vitals stable and on per abdomen examination tenderness was present in the left iliac fossa. USG abdomen and pelvis revealed a left ovarian mass appears bulky with central fat echogenic area -?Ovarian dermoid cyst. Patient underwent laparoscopic left ovarian cystectomy.Intraoperatively there was a leftt sided ovarian cyst of 5*6*5cms Histopathology revealed as features consistent with mature dermoid cyst of left ovary. Postoperative period was uneventful

Clinical characteristics	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Age	13	18	18	19	17	16
Symptoms	Pain abdomen Abdominal distension	Pain abdomen	Pain abdomen	Pain abdomen	Pain abdomen	Pain abdomen
Signs	10*8cm cystic mass	Soft	20*28cm mass	Soft	6*8cm cystic mass	Soft
Tenderness	Non tender	Non tender	Tenderness present	Tenderness present	Tenderness Present	Tenderness present
Ultrasound	Dermoid cyst Or mucinous cystadenoma of ovary	Anechoic cystic lesion of 7.8*6.3*6.7cm in left adenxa	15.5*12.4*10.3cm cystic lesion on right side Large cystic mass on left side	7.4x6.2x7.1cm mass in right adnexa	Anechoic cystic mass on right side	Left ovarian dermoid cyst

Characteristics	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Surgery	Laparoscopic ovarian cystectomy with left oophorectomy	Laparoscopic left oophorectomy	Right ovarian cystectomy with left Oophorectomy	Diagnostic laparoscopy with right salpingooophorectomy	Laparoscopic right ovarian cystectomy	Laparoscopic left ovarian cystectomy
Histopathology	Dermoid cyst of left ovary	Torsion of left ovary	Left ovarian torsion with	Dermoid cyst of right ovary	Serous cyst of right ovary	Mature dermoid cyst of left ovary

3. RESULTS

4. CONCLUSION

Adnexal torsion eventually leads to ovarian and possibly fallopian tube infarction; thus, prompt diagnosis is critical to salvage the ovary.A high index of clinical suspicion is required in cases of sudden-onset pelvic pain when it is associated with nausea or vomiting, particularly in premeno-pausal patients.

Therefore, a high index of suspicion coupled with ultrasonographic evidence and adequate clinical presentation reduces morbidity and complications of the disease. Rapid diagnosis and surgical intervention are the keys to recovery.

5. DISCUSSION

This study was undertaken to study the outcome of adolescent adnexal torsions in tertiary care centre.In this case series ,the observed cases of adnexal torsion in adolescents age group .Symptoms included sudden onset pain abdomen,nausea, vomiting .Diagnosis was made considering preoperative and intraoperative findings and in correlation with radiological findings.Treatment was surgical interventions.

A total of 30% of the adnexal torsion cases occur among young females less than 20 years. The mean age of adnexal torsion in adolescence is 10 years.Risk factors for developing torsion of ovarian cyst are premenarchal girls, cyst above 5 cm, enlarged infundibulopelvic ligaments, postmenopausal women, and pregnancy.

Polycystic ovaries have been associated with torsion in 7% of the cases.Other risk factors are ovarian stimulation, previous abdominal surgery, and tubal ligation. The right-side ovarian torsion is more common than on the left side, this is because the sigmoid colon reduces the amount of space available for the movement of the ovary on the left side. In this case series, out of 6 cases, 4cases had left-sided adnexal torsion

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