



## CLINICAL AND PATHOLOGICAL FINDINGS OF OVARIAN CYSTS, TORSION OVER THE PERIOD OF TEN YEARS (2001-2011)

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### ABSTRACT

Ovarian tumors and cysts are major problem in women. Rupture and torsion are major damages which may lead to abdominal pain and acute abdomen. Cysts are the most prevalent pelvic mass in pregnancy and often associated with function disorders of menstruation which are mostly improved spontaneously. In some cases which are the result of cyst rupture, torsion or bleeding in to the cyst, laparotomy may be needed. This was a prospective-descriptive study that has been performed during 10 years, 155 cases with adnexal torsion were studied from the pathological and clinical point of view. Data was analysed using SPSS, version 16. The most prevalent age was 20-30 years, and almost all the cases had abdominal pain. The right ovarian was engaged in 78% of cases, and 1% were bilateral. From pathological point of view, the most prevalent type of functional mass was follicular and luteal, which luteal was more prevalent followed by dermoid cyst. In 19% of cases, adnexal torsion occurred in pregnant women. One of the important causes for abdominal pain is adnexal torsion, especially during pregnancy and delayed in diagnosis, may lead to peritonitis necrosis, it should be considered always as an emergency case. Early diagnosis is necessary to preserve adnex. In this study, the most prevalent parts are right adnex, functional mass type and finally dermoid cyst.

**Key word:** ovarian cysts, torsion, women,

### INTRODUCTION

Adnexal masses in pregnancy are frequently of functional type. Although they may often appear with no sign and symptoms, in case that they grow up, may lead to cause of pain, bleeding, torsion, rupture, acute abdomen, unusual ovarian bleeding or feeling pain during activity or sexual intercourse.<sup>1-3</sup> Ovarian follicles may be filled with liquid after ovulation and create luteal cyst that result in local pain in the same side or all over the pelvis or may cause adnexal torsion. Due to every cause, this complication first disorders the lymphatic venous blood flow and then edema, growth of ovary and hemorrhage. In case of delay in treatment, will occurred severe venous or arterial thrombosis followed by necrosis.<sup>3</sup>

The calutein cysts appear as a result of increased levels of human embryonic gonadotropins. Polycystic ovary syndrome with amenorrhea or Oligomenorrhoea and sometimes infertility characterized by the absence of ovulation which rarely results in adnexal torsion.<sup>3</sup> Ovarian cystic masses with an average size cause a pressure to the adjacent organs that may result in adnexal torsion.<sup>4, 5</sup> Epithelial tumors are the most prevalent type of ovarian tumors, that are cystic in some points.<sup>2</sup> Except for torsion, one of the major and acute damages of ovarian cyst is rupture that is prevalent in fertility and young ages (especially in the third decay). The follicular cyst rupture to the corpus luteum ratio is one to fourth.<sup>6,7</sup>

Torsion is an important complication in ages under aged 30 years and more prevalent in dermoid cysts may cause ovarian

necrosis, inflammation, infection and even death in case of delayed treatment.<sup>2,4</sup> In a study has shown the most prevalent pathology was corpus luteum (45%), the rarest was 1% pregnancy luteum, 7% bilateral, 51% in the left side and 42% was in the right side.<sup>8</sup> another study has found that most prevalent ruptured cyst was the right luteal cyst.<sup>9</sup> Also, the ovarian mass has been observed in embryo which needs a follow-up using serial sonography. In such cases the delivery of the patient must be done in an equipped prenatal center, and an accurate follow-up with sonography and other diagnostic steps are needed after the childbirth.<sup>10</sup> Ovarian or bilateral torsion may be seen in little girls too. So, in case of abdominal pain, the complication must be considered, and after the clinical suspicion, laparoscopy is a preferable diagnosis and treatment.<sup>11</sup>

Adnexal torsion rarely may be observed in infants which results in the obstruction of vessels, amputation and consequently permanent loss of adnex.<sup>12</sup>

### MATERIALS & METHODS

In this prospective - descriptive study on 155 patients who were affected with adnexal torsion in Razi Hospital during 10 years (2001-2011) in Ahvaz city, Khuzestan providence, Iran. Demographic data, pathological and clinical symptoms were recorded and were analysed using statistical software SPSS, version 16. The study was approved by Ahvaz Jundishapur University of Medical Sciences, and Ethics Committee (∆/6-523-2000).

Table 1: Frequency place of adnex torsion

Percent	Adnexal Torsion
78%	Right
20.5%	Left
1.5%	Bilateral
100%	Sum

**Table 2: Cause of adnex torsion**

Quantity	Percent	Pathology
67	43%	Functional
38	24.5%	Dermoid
12	7 %	Mucinosi cystadenoma
7	4.5%	Dysgerminma
6	4 %	Adenofibroma
8	5%	Endometrium
19	12%	Necrosis

**Table 3: Clinical symptoms of adnex torsion**

Percent	Quantity	Clinical Signs
98%	151	Abdominal pain
79%	122	Abdominal tenderness
72%	112	Painful cervix movement
52.5%	81	Rebound tenderness
69%	107	Disgust
22%	34	Orthostatic changes
7%	6	Fever $\geq 38^{\circ}$
30%	47	Tachycardia
12.5%	19	Tachypnea
11%	17	Urinary signs

## RESULTS

This study has shown that the most common age for affecting with adnexal torsion was 20-30 years (48.2%) which was observed more in the right side (Table 1). From pathological point of view, 43% of adnexal torsion was due to the ovarian functional masses, 24.5% due to the dermoid cyst and then mucinosis cyst adenoma, dysgerminoma, adenofibroma and endometriosis (Table 2). Regarding clinical symptoms, 98% of patients referred with abdominal pain, 75% abdominal and pelvic tenderness, 52.5% rebound tenderness, 72% cervix pain in moving, 69% disgust and the other cases have been mentioned in (Table 3).

Out of them 19% of the patients were pregnant (29) who were mostly in the first trimester. The common mass in adnexal torsion in pregnant patients was dermoid cyst.

## DISCUSSION

The majority of ovarian cysts are benign nature, but torsion is more common in benign medium-sized.<sup>13, 14</sup> this study has conformed to previous study that has reported, torsion in benign lesions is 12.9 times more than malignant cases.<sup>15</sup>

Adnexal cysts create a local pain with peritoneal instigation in the same side. The major symptoms were pelvic or abdominal pain and obvious tenderness in the lower quadrants.<sup>1</sup> Most patients have regular cycle, but sometimes they may encounter with the ovarian function disorder, delay in menstruation, and often imitate the ectopic pregnancy symptoms such as pain and mild vaginal bleeding.<sup>16</sup>

As 67.5% of masses were on the right ovary in our study was conformed to some other studies<sup>2,4</sup>, it is probable that the protective role of recto sigmoid in the left side protect the left adnexal mass from rupture and torsion.

In our study, like some other studies the most common torsted mass was ovarian functional masses and dermoid.<sup>6, 17, 18</sup>

As we showed in our study, one of the most prevalent ovarian mass that may be caused of torsted and rarely torsted was dermoid. To treat this complication, laparoscopy and improving the ovarian torsion and then cystectomy and preserving ovary are preferable. If before removing the dermoid cyst aspiration was necessary, it is better to put ovary in a bag to prevent leak and contamination, this finding was conformed to previous study.<sup>19</sup>

In a study<sup>20</sup> was carried on the patients with adnexal torsion in Denver, USA during 15 years, it has been advised that the patients should be confined to bed. Afterward, regarding that laparoscopy and cyst resection are preferable, decision was made about the treatment. Because most patients are prepared for the surgery more than 20 hours after the bedridden, preservation of the ovary becomes difficult. Torsion occurs mostly in benign mass and rarely involves the malignancy; preservation and fixation of ovary during the laparoscopic treatment make the prognosis easier<sup>19, 21</sup> all those studies were conformed to our survey.

## CONCLUSION

Considering the fact that most of ovarian masses were benign and occurred during the productivity ages, in any case of suspicion to rupture or torsion of ovarian mass. Then patients must be under control, and decision-making for the treatment are compulsory for them. However, to preserve the ovary and the productive potential of the patient some conservative methods such as laparoscopy and opening the torsion and preservation of adnex must be performed. If the patient make-decision to treated with a delay, it may be lead to necrosis and removal of ovary.

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