

Original Research Article**Histopathology and Clinical Correlation of Torsion of Ovary****Dost Mohamed Khan¹, Naseem Norunnisa², Abilash S.C.³, Revathishree R.⁴, N. Thamarai Selvi⁵, Pushkar Chaudhary⁶**

¹Associate Professor ²Professor ³Associate Professor ⁴Associate Professor ⁵Assistant Professor ⁶Postgraduate Student, Dept. of Pathology, Shri Sathya Sai Medical College & Research Institute, SBV (DEEMED-TO BE- UNIVERSITY), Nellikuppam, Tamil Nadu 603108, India.

Abstract

Ovarian cysts and tumours are the major problems in women. Vast majority of ovarian cysts are benign in nature. Ovarian cysts are usually asymptomatic, they are found as an incidental finding during routine ultrasonogram. Torsion ovary is a infrequent complication which may present as abdominal pain or acute abdomen.

Corresponding Author:

Abilash S.C.,
Associate Professor,
Dept. of Pathology,
Shri Sathya Sai Medical College
& Research Institute, SBV
(DEEMED-TO BE- UNIVERSITY)
Nellikuppam, Tamil Nadu 603108,
India.
E-mail:
abey4aris@gmail.com

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Methodology: The present study was two year retrospective study conducted during the period of Jan 2014 until Dec 2015. 29 cases with adnexal torsion who underwent surgery during this period were included in the study. The clinical details and gross findings were recorded from hospital registry. The histopathology slides were retrieved and findings were recorded.

Results: Out of 29 cases 15 cases (51%) were seen between 20-30 years and the common presenting complaint was abdominal pain. The most common presentation (66%) was on the right side and minority (1%) of these lesions were found to be bilateral. Functional cyst was the more prevalent type of lesion 14 cases(48.28) followed by benign serous cystadenoma 9 cases (31%).

Conclusion: Acknowledging the fact that majority ovarian cysts were seen in young females, early diagnosis and prompt intervention of cases with rupture or torsion should be made in consideration of the preserving the adnexa.

Keywords: Ovarian Cysts; Torsion; Hemorrhage.

Introduction

During infancy and adolescence, which are hormonally active periods of development, cystic lesions of the ovary are most common [1]. Ovarian lesions may be functional or pathological type, in which functional ones are the most common presenting cystic lesions like follicular and corpus luteal cysts [2]. Most of cystic lesions were simple cysts, while very few consists of complex cystic architecture. Literature reveals that around 90% of these cysts resolves by itself [3]. These cysts are most common in young females in twenties because of failure of ovulation with very few women in perimenopausal and postmenopausal age groups

[2,3]. Some lesions are predominantly tumors that can be benign, borderline, and malignant, Amongst which benign epithelial neoplasms are the most common, that is cystic in nature [2,4].

One study revealed that the commonest pathology was corpus luteum (45%), and the rare one being pregnancy luteum (1%). 7% of the cases presented bilaterally, 51% of cases in left ovary and 42% were in right ovary [5]. Another study showed that most common ruptured cyst was luteal cyst [6]. Single ovarian or bilateral torsion is seen in small girls also [7]. Mostly 1 to 3 ovarian follicles can be filled with fluid following ovulation and lead to formation of

luteal cysts which causes pain on the ipsilateral side or all over the pelvis and may even lead to torsion.

Torsion distorts flow of lymphatic drainage which cause edema, leading to enlargement of ovary causing hemorrhage. Any delay in management, may cause arterial & venous thrombosis leading to necrosis [3]. Polycystic ovary along with oligomenorrhoea or amenorrhoea or infertility with anovulation may lead to adnexal torsion [3]. Ovarian cystic masses with an average size may cause a pressure to the adjacent organs [8].

Materials and Methods

A retrospective analysis was done by reviewing the surgical gross and microscopic examination reports of patients who underwent surgical management for ovarian cystic lesions from January 2014 until December 2015. The presumptive diagnosis obtained from gross examination was compared with the final histopathological

diagnosis. Pathological and clinical symptoms were recorded and were analyzed using statistical software SPSS, version.

Results

This study has shown that the adnexal torsion frequently occurs on the right side (66%) followed by left side (33%) (Table 1). The most common age for adnexal torsion was 20-30 years (51%) (Table 2).

From pathological point of view, 48% of adnexal torsion was due to the ovarian functional masses, 13% due to the benign serous cystadenoma followed by mucinous cystadenoma (13%) and dermoid cyst (7%) (Table 2). Regarding clinical symptoms, 93% of patients referred with abdominal pain, 65% abdominal and pelvic tenderness, 62% nausea and vomiting, 58% cervix pain in moving, and the other cases have been mentioned in (Table 3).

Table 1: Frequency place of adnexal torsion

Adnexal Torsion	Percent
Right	66%
Left	33%
Bilateral	1%

Table 2: Age distribution of adnexal masses

S. No	Adnexal Mass	Quantity	Age Distribution			
			20-30	30-40	40-50	50-60
1	Functional	14	10	3	1	
2	Benign serous cystadenoma	9	4	2	1	2
3	Mucinous cystadenoma	4	-	1	2	1
4	Dermoid Cyst	2	1	1		
	Percentage		51%	24%	14%	10%



Fig. 1: Shows ovary enlarged, edematous and hemorrhagic cystic cavities



Fig. 2: The torsed ovary is enlarged, edematous, engorged with blood, and maybe infarcted

Table 3: Clinical Features of Adnexal torsion

Clinical Signs	Quantity	Percent
Abdominal pain	27	93%
Abdominal & Pelvic Tenderness	19	65%
Nausea & Vomiting	18	62%
Painful cervix movement	17	58%
Tachycardia	16	55%
Urinary signs	15	51%
Rebound Tenderness	14	48%
Tachypnea	11	37%
Orthostatic changes	9	31%
Fever>38°	8	27%



Fig. 3: Shows Ovarian torsion with normal uterus and cervix

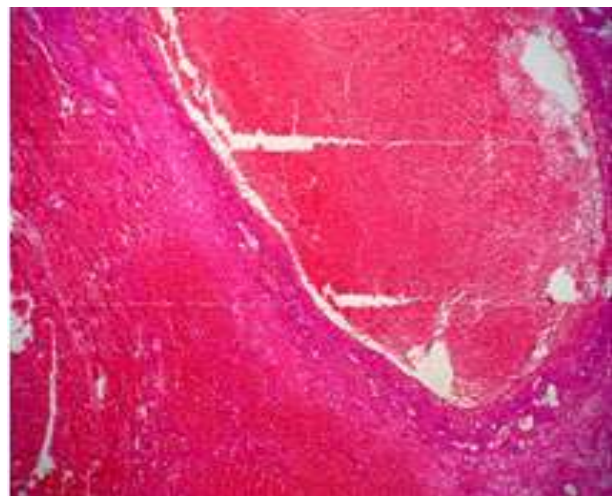


Fig. 5: Shows hemorrhage in the cystic areas

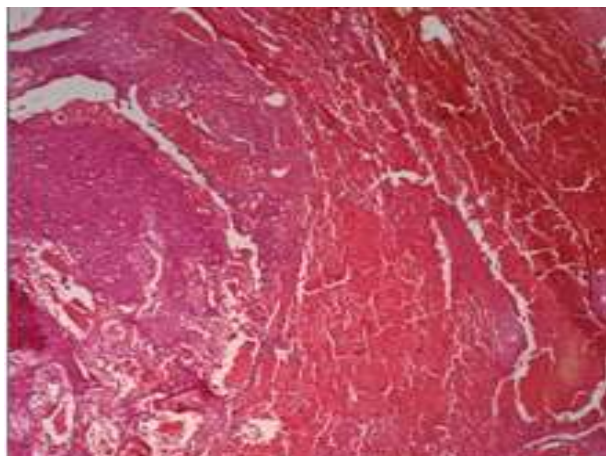


Fig. 4: Shows Hemorrhage and necrosis in the ovarian parenchyma

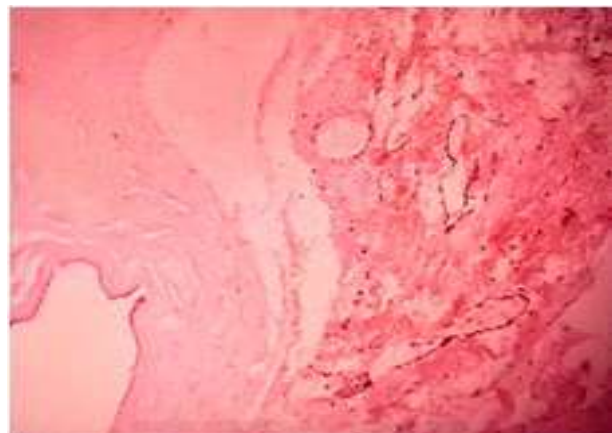


Fig. 6: Shows benign serous cystadenoma features with edema and hemorrhage

Discussion

Partial or complete rotation of ovary hampering vascular supply leading to ovarian torsion. Ovarian torsion occurs mainly in young lady (15–30 years) and in postmenopausal women [9] which depicts bimodal age population. The majority of ovarian torsion is more common in functional and benign lesions [10,11]. This study was compared with Myers et al [12]. The major clinical features were abdominal pain, abdominal or pelvic

tenderness in the lower quadrants [1]. 9 out of 14 cases of functional ovarian masses grossly showed enlarged, edematous and hemorrhagic cystic cavities (Figure 1&2). Microscopically showed marked hemorrhage, marked acute and chronic inflammatory cell collections (Figure 4). Remaining 5 cases showed hemorrhage, acute inflammatory cell collections with focal preservation of follicles (Figure 5). 6 out of 9 cases of benign serous cystadenoma grossly showed ovarian torsion with

normal uterus and cervix (Figure 3). Microscopically showed hemorrhage, profound acute and chronic inflammatory cell collections, and infarct (Figure 6). Remaining 3 cases showed focal torsion with serous cystadenoma features. All the cases mucinous cystadenoma and dermoid cyst showed fresh and old hemorrhages, fibrous proliferation and necrosis with signs of mucinous cystadenoma and dermoid cyst features. This study is compared with Chen M et al [9].

The present study shows 66% of lesions on the right side ovary, this finding was in concurrence with the study done by Myers E et al [2]. Rupture and torsion in the left side is probably protected by rectosigmoid. Like studies Golash V et al. [12], Narducci F et al. [13], the present study showed most common torsted mass was ovarian functional masses and benign serous cystadenoma. Our study also depicts, the rarely torsted ovarian mass was dermoid cyst.

Conclusion

The delay in the diagnosis of ovarian torsion mainly due to the presenting non specific clinical features, therefore required high level attention to treat the ovarian torsion and to prevent complications. Most of the ovarian masses were benign and occurred during the productive ages, any suspicious case of ovarian rupture or torsion must be kept under control, and prompt treatment is compulsory for them.

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