

Ovarian Fibrothecoma with Acute Torsion and Extensive Cystic Degeneration after Long Quiescence in a Young Patient

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Abstract: Ovarian Fibrothecomas are rare tumors of the ovary classified under sex cord stromal tumors. They are benign solid ovarian tumors that commonly occur in older women. They usually present with menstrual complaints although rarely asymptomatic tumors also occur. Some of them are known to undergo torsion and cystic degeneration when they are very big in size. We report a rare case of a young woman with a medium sized ovarian fibrothecoma which had all the above mentioned in combination interestingly and presented acutely after years of quiescence.

Keywords: Ovarian fibrothecoma, Ovarian torsion, Cystic degeneration, Laparotomy, Postmenopausal bleeding.

INTRODUCTION

Ovarian fibromas and thecomas are benign tumors of the ovary categorized under sex cord stromal tumors. Rarely, both components are seen in the same tumor and they are then called Ovarian fibrothecomas. All together these tumors account for only 3-4% of ovarian tumors [1, 2]. They are usually seen in the older age group and mostly because they are estrogen producing, they manifest as postmenopausal bleeding. They are usually solid tumors and few of them undergo cystic degeneration [1]. About 8% of these tend to twist. Our case is unique because it occurred in a young woman who remained asymptomatic for a long time and then reported to the emergency with acute torsion. Histopathology of the tumor revealed it to be an ovarian fibrothecoma with extensive cystic degeneration.

CASE HISTORY

A thirty year old para 2 living 2 abortions 0 widowed lady presented to our emergency department with acute onset severe pain abdomen of few hours duration. Her previous menstrual cycles were all regular and her last menstrual period occurred ten days prior. Both her deliveries were by cesarean route and took place at a rural health centre. Her antenatal and postnatal periods were uneventful. But, eight years back she was told during her second cesarean delivery that there was an ovarian mass which they did not excise anticipating heavy blood loss and technical difficulties surgically, keeping in mind it being a rural

centre with limited facility. She recovered well after that and remained asymptomatic for eight years. She did not use any contraception or undergo any sterilization procedure after her second childbirth because she was not sexually active for last 6 years after her husband's death which occurred due to alcoholic liver cirrhosis.

On examination, her pulse rate was 140 beats per minute and her BP was 140/80 mmHg in supine position. She was looking pale. Her abdomen was guarded and very tender. Tenderness was in the right lower abdomen. Speculum examination revealed an effaced cervix with pinpoint os and normal vagina. Digital vaginal examination revealed extreme right forniceal tenderness. On bimanual examination we could palpate a very tender pelvic mass occupying the entire right fornix. The uterus was normal in size and non tender.

INVESTIGATIONS

Ultrasound examination revealed a 7cm right complex ovarian cyst with solid areas with Doppler showing compromised vascularity. There was minimal free fluid in the pouch of douglas. Uterus, fallopian tube and the opposite adnexa were normal. Urine pregnancy test was done as the history of abstinence appeared doubtful and the result was negative. Her hemoglobin was 9.4 g/dl and her total WBC counts were 14500 cells/mm³.

TREATMENT

An emergency laprotomy was performed based on the clinical diagnosis of acute torsion ovarian cyst. Intraoperatively, there was a right twisted solid ovarian tumor with a slightly lobulated surface and of 7- 8 cm

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size. It had undergone torsion thrice at the pedicle (Figure 1). The uterus and the left ovary and fallopian tubes were normal. We collected the minimal hemorrhagic fluid that was seen in the pelvis and sent it for cytological examination. Then, we performed a right ovario-salpingectomy proximal to the twisted pedicle (Figure 2) and left the uterus intact. We took a biopsy from the opposite ovary. A clockwise examination of the abdominal and pelvic viscera was performed which revealed no lesions suspicious of malignancy or metastasis. After achieving hemostasis we closed the abdomen and the patient recovered well post operatively.

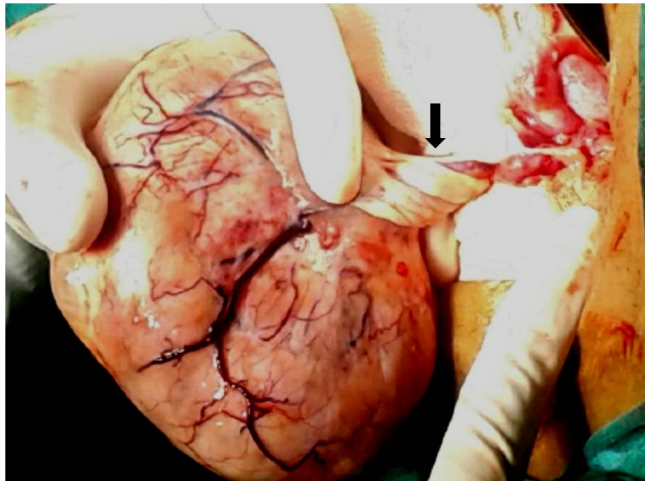


Figure 1: Intraoperative image of right ovarian fibrothecoma. Arrow pointing at thrice twisted pedicle of the tumor.

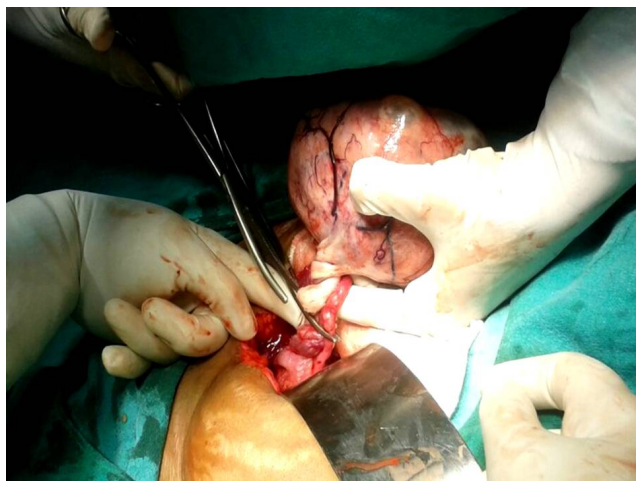


Figure 2: Intraoperative image of surgical excision of right Ovarian fibrothecoma clamping the tumor pedicle proximal to the torsion.

PATHOLOGY

The histopathology examination of the ovarian mass revealed a 7cm solid grey white to grey yellow tumor

with several large cystic spaces within it. Microscopic examination revealed elongated cells with spindle shaped nuclei lacking atypia or mitotic figures arranged in fascicular pattern with prominent intracellular edema suggestive of fibroblasts and nests of round to plump cells with pale or vacuolated cytoplasm suggestive of theca cells. There were several cystic spaces interspersed between both patterns. Thus concluding it to be fibrothecoma of the right ovary with cystic degeneration. The biopsy from the opposite ovary revealed normal ovarian tissue and the cytology of the hemorrhagic peritoneal fluid was negative for malignant cells.



Figure 3: Image showing cut section of the ovarian mass showed solid grey white to grey yellow firm areas exhibiting fascicular pattern interspersed with several large cystic spaces.

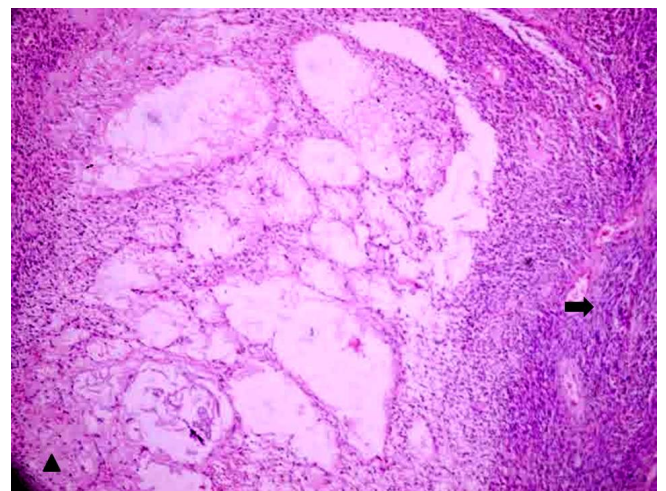


Figure 4: Image showing low power view of ovarian fibrothecoma showing black arrow pointing at spindle shaped cells arranged in fascicular pattern and black triangle pointing at nests of round cells with pale or vacuolated cytoplasm interspersed with multiple cystic spaces (H&E; 10X).

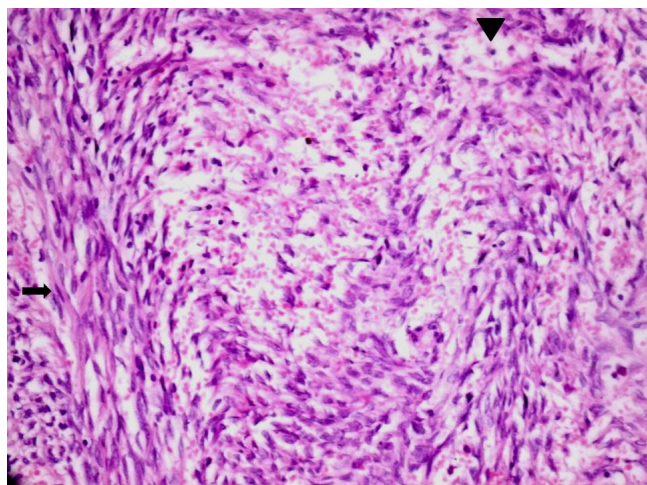


Figure 5: High power view of fibrothecoma showing black arrow pointing at alternating spindle shaped nuclei arranged in fascicles and round nuclei lacking atypia or mitotic activity with prominent intracellular edema. Black triangle pointing at nests and sheets of round to oval theca cells with moderate to abundant pale or vacuolated cytoplasm (H&E; 40X).

FOLLOW UP

Patient has been followed up for the last 2 years and she has had no complaints so far with all normal ultrasound scans and clinical examinations.

DISCUSSION

Ovarian tumors are broadly divided into three categories. First are epithelial tumors that arise from the surface epithelium of the ovary. Second are germ cell tumors that arise from primitive germ cells. Third are sex cord- stromal tumors that arise from ovarian mesenchyme [3].

Sex Cord Stromal tumors of the ovary are further classified into Granulosa Cell tumors which arise from sex cord cells, fibromas, thecomas and fibrothecomas that arise from gonadal stroma and Sertoli Leydig cell tumor and Gynandroblastoma which are of mixed origin.

Fibromas precisely have their origin from fibroblasts and thecomas from theca interna cells of the ovarian follicle. Fibrothecomas are tumors that contain both components. They are characterized by the presence of both spindle shaped cells producing plenty of collagen and plump lipid laden cells with vacuolated cytoplasm [4].

Fibromas and thecomas are commoner but fibrothecomas are rare. These tumors are usually benign, unilateral and occur commonly in old age. They

are usually estrogen producing, hence presenting commonly with postmenopausal bleeding [5], menorrhagia, metrorrhagia and amenorrhoea. They are usually solid firm rubbery tumors with whorled appearance on cut section. They are reported to commonly undergo secondary changes like edema and cystic degeneration and rarely calcifications and haemorrhage [6]. Samanth *et al.* reported that tumors larger than 10cm undergo cystic degeneration due to discrepancy in arterial supply and venous, lymphatic drainage [7]. About 8% of these tumors undergo torsion especially in large tumors [8]. Although our patient had a smaller tumor, it underwent both cystic degeneration and torsion presenting after years of quiescence.

Of a special mention is the good prognosis associated with ovarian fibrothecomas. Even those cases associated with hydrothorax, ascitis and Meig's syndrome reverse completely after tumorectomy [9].

CONCLUSION

Ovarian fibrothecomas although rare tumors of the ovary should be kept in mind while encountering acute ovarian torsion cases even in young patients with small masses that have remained asymptomatic for long years.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ETHICS APPROVAL STATEMENT

A written and informed consent was obtained from the patient in her own language for publication of this case report and related images.

REFERENCES

- [1] Sharma S, Bansal R, Upreti S, Khare A, Sharma S, Agarwal D. Ovarian fibrothecoma with extensive cystic degeneration: two case reports. *Indian Journal of Clinical Practice* 2013; 23(12).
- [2] Shinagare AB, Meylaerts LJ, Laury AR, Mortelet KJ. MRI features of ovarian fibroma and fibrothecoma with histopathologic correlation. *American Journal of Roentgenology* 2012; 198(3): W296-303. <https://doi.org/10.2214/AJR.11.7221>
- [3] Mak CW, Tzeng WS, Chen CY. Computed tomography appearance of ovarian fibrothecomas with and without torsion. *Acta Radiol* 2009; 50(5): 570-5. <https://doi.org/10.1080/02841850902896163>
- [4] Dhull A, Kaushal V, Mathur S, Agarwal R. Fibrothecoma of the Ovary- A Rare Case Presentation. *The Internet Journal of Third World Medicine* 2010 Volume 9 Number 2.
- [5] Chechia A, Attia L, Temime RB, Makhlof T, Koubaa A. Incidence, clinical analysis, and management of ovarian

- fibromas and fibrothecomas. American journal of obstetrics and gynecology 2008 Nov 30; 199(5): 473-e1.
<https://doi.org/10.1016/j.ajog.2008.03.053>
- [6] Salemis NS, Panagiotopoulos N, Papamichail V, Kiriakopoulos K, Niakas E. Bilateral ovarian fibrothecoma. An uncommon cause of a large pelvic mass. International journal of surgery case reports 2011; 2(3): 29-31.
<https://doi.org/10.1016/j.ijscr.2010.07.005>
- [7] Samanth KK, Black WC. Benign ovarian stromal tumors associated with free peritoneal fluid. Am J Obstet Gynecol 1970; 107: 538-45.
[https://doi.org/10.1016/S0002-9378\(16\)33939-4](https://doi.org/10.1016/S0002-9378(16)33939-4)
- [8] Sakaki M, Hirokawa M, Horiguchi H, Wakatsuki S, Sano T, Izumi Y. Ovarian fibrothecoma with massive edema. Journal of medical investigation 2000; 47(3/4): 148-51.
- [9] Paladini D, Testa A, Van Holsbeke C, Mancari R, Timmerman D. and Valentin L. Imaging in gynecological disease (5): clinical and ultrasound characteristics in fibroma and fibrothecoma of the ovary. Ultrasound Obstet Gynecol 2009; 34: 188-195.
<https://doi.org/10.1002/uog.6394>

Received on 19-02-2017

Accepted on 03-04-2017

Published on 12-04-2017

<http://dx.doi.org/10.15379/2408-9761.2017.04.01.02>

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