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Indian Journal of Pathology and Oncology

Journal homepage: [www.ijpo.co.in](http://www.ijpo.co.in)

## Case Report

# Massive edema and fibromatosis of ovary: A rare case report

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### ARTICLE INFO

#### Article history:

Received 06-03-2024

Accepted 19-03-2024

Available online 17-04-2024

#### Keywords:

Massive edema

Fibromatosis

Fibroma

### ABSTRACT

Ovarian lesions composed of spindle cells comprise a heterogeneous group; most are neoplastic, but several non-neoplastic lesions may be composed of spindle cells, including massive edema and fibromatosis and ovarian fibroma. Herein we discuss both these non-neoplastic entities as a differential diagnosis for our case of benign spindle cell lesion of ovary.

57-year-old post-menopausal female presented with abdominal pain, vomiting, constipation. Computed tomography showed, features of ovarian torsion. Staging laparotomy was done and a specimen of hysterectomy with bilateral salpingoophorectomy, was sent for histopathological examination. Sections from right ovary showed proliferation of spindle cells resembling stromal fibroblasts with large areas of edema and haemorrhage. Masson's trichrome show increased collagen deposition. The tube also shows changes secondary to torsion in the wall. Based on the above features, we made a diagnosis of benign spindle cell lesion of ovary with the differential diagnosis including massive edema and fibromatosis and fibroma of ovary. IHC for Inhibin was ordered which came negative. This confirmed the diagnosis of massive edema and fibromatosis.

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## 1. Introduction

Massive ovarian edema and fibromatosis is defined by the WHO as tumour-like enlargement of the ovaries due to fibroblastic proliferation with collagen deposition or stromal accumulation of edema fluid.<sup>1,2</sup> We report a case of a 57-year-old female who presented with complaints of lower abdominal pain and a clinical and radiological diagnosis of ovarian torsion. The patient underwent a staging laparotomy. Histopathological and immunohistochemical examinations confirmed the diagnosis of massive edema and fibromatosis.

## 2. Case Report

57-year-old postmenopausal female came with complaints of lower abdominal pain, vomiting, constipation, and bleeding of the rectum for a week. On per abdomen examination, a distended mass measuring 10x15 cm was felt in the lower abdomen, extending to the supra-umbilical area, with variable consistency, mobile and non-tender. Computed tomography showed a relatively well-defined heterogeneous hypo-enhancing lesion measuring ~10.4 x 7.6 x 11.4 noted extending from the right adnexa to the umbilical region. Features likely to represent right ovarian torsion.

We received a hysterectomy specimen with bilateral tubes and ovaries. Right ovary: 12.5x9.5x9 cm with attached tube, 6 cm in length, capsule intact. The cut surface shows solid, cystic, and haemorrhagic areas. Cysts filled with haemorrhagic material. (Figures 1 and 2). A frozen

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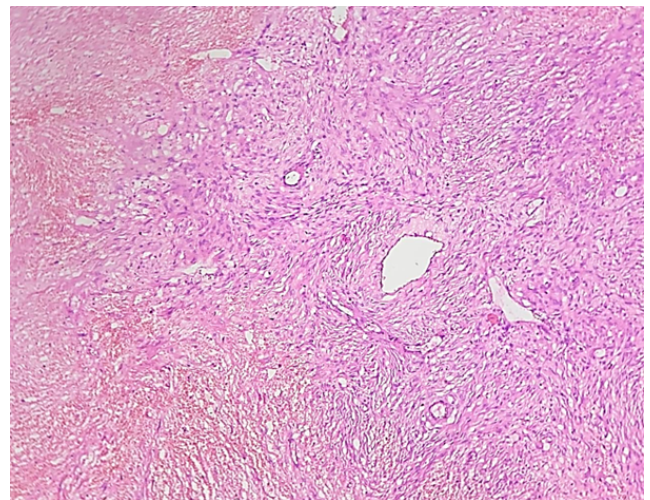
section was sent for the right ovary, which showed a spindle cell lesion with edema and congestion of blood vessels. There was no increase in mitosis or epithelial components in the sections examined. Later, microscopic sections from the right ovary showed proliferation of spindle cells resembling stromal fibroblasts with large areas of edema and haemorrhage. There is no increase in mitosis or nuclear pleomorphism (Figures 3 and 4). Masson's trichrome shows increased collagen deposition. The tube also shows changes secondary to torsion in the wall. Since the histopathological features show features of both 1) fibromatosis and massive edema and 2) fibroma of ovary, the diagnosis of features suggestive of a benign spindle cell lesion with features secondary to torsion was given. Immunohistochemistry WT-1, inhibin, SMA were advised for further categorization. IHC for Inhibin was done, which came as negative. This confirmed the diagnosis of massive edema and fibromatosis.



**Figure 1:** Right ovary with attached tube



**Figure 2:** Right ovary cut surface shows solid, cystic and hemorrhagic areas. Cyst filled with hemorrhagic material



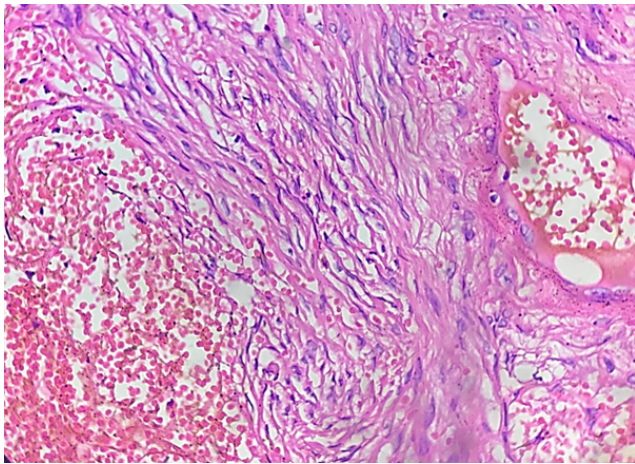
**Figure 3:** Shows proliferation of spindle cells. H & E -10X

### 3. Discussion

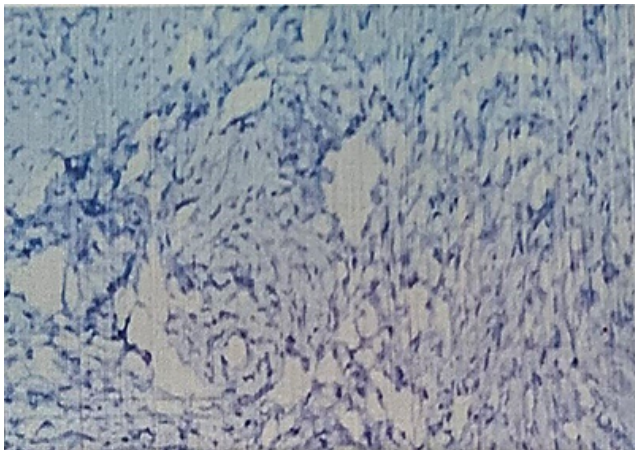
Most ovarian tumours are cystic in origin, and solid tumours are quite rare.<sup>3</sup> Ovarian fibromatosis (OF) is a rare, non-neoplastic condition. It usually presents with abdominal pain, menstrual irregularities, and sometimes virilization.<sup>4,5</sup> Fibromatosis compared to massive oedema of the ovary, for which a histological overlap has been observed.<sup>6</sup> Massive edema and fibromatosis cause the ovaries to enlarge tumor-like because of collagen deposition from fibroblastic proliferation or stromal buildup of edema fluid. A stromal growth unrelated to the soft tissue kind of fibromatosis is called ovarian fibromatosis. Massive oedema and ovarian torsion are related, and the cause may be due to venous lymphatic drainage blockage. In terms of size,

the ovary is enlarged (on average by 8 cm) with a smooth, nodular surface and a cut surface that is either firm (because to fibromatosis) or watery (due to significant edema). Histopathologically, there is ovarian stromal fibroblastic cell proliferation with variable collagen deposition. Stroma shows marked edema; however, the outermost region of the cortex is spared. Luteinized stromal cells can be seen.<sup>1</sup>

In our case, the presence of fibroblastic proliferation, collagenous stroma, and edema pointed to the diagnosis of ovarian fibromatosis and massive edema. The diagnosis of massive ovarian edema is a dilemma due to the rarity of cases and the fact that it's an unknown entity for most clinicians, leading to overtreatment. The patients usually present with acute abdominal pain mimicking a torsion, as



**Figure 4:** Shows proliferation of spindle cells resembling stromal fibroblasts with large areas of edema and haemorrhage. H&E- 40X



**Figure 5:** Inhibin – Negative stain

was the case with our patient. A palpable adnexal mass, or virilization, can also be seen.<sup>7</sup> Our patient had a palpable mass.

The connection between ovarian fibromatosis and torsion is explained by two ideas. According to the first, large ovarian edema and ovarian torsion are the results of fibromatosis, which is the fundamental pathology. According to the second idea, the process of torsion itself results in fibromatosis by inducing growth factors to be secreted by local macrophages and platelets, which in turn promote enormous fibroblastic proliferation and edema.<sup>8</sup>

Conservative treatment must be the rule since the disorder is non-neoplastic.<sup>4</sup> Based on the above features, IHC with SMA and Inhibin, WT-1 was advised. Granulosa cells of the ovary produce the glycoprotein hormone inhibin. Inhibin expression helps to distinguish sex cord stromal tumors from other ovarian neoplasms.<sup>9,10</sup>

IHC for Inhibin was ordered, which came back negative. This confirmed the diagnosis of massive edema and fibromatosis.

#### 4. Conclusion

Ovarian fibromatosis with massive edema ovary is rare, making up fewer than 4% of ovarian tumors.<sup>2</sup> In perimenopausal and menopausal patients, these lesions frequently develop. The best preoperative strategy now available for ovarian cancers relies on clinical, ultrasonographic, and tumor marker data. However, the diagnosis remains histological. We present this case for its rarity and to highlight histological features.

#### 5. Source of Funding

None.


#### 6. Conflict of Interest


None.

#### References

1. Female Genital Tumours: WHO Classification of Tumours. 5th ed. France: IARC; 2020.
2. Najmi Z, Mehdizadehkashi A, Kadivar M, Tamannaie Z, Chaichian S. Laparoscopic approach to a large ovarian fibroma: a case report. *J Reprod Infertil*. 2014;15(1):57–60.
3. Eliarivola R, Nalisoa RF, Irène RZ, Soa RN. Bilateral Ovarian Fibroma: About a Case Seen at Chu Anosiala Antananarivo. *Open J Pathol*. 2023;13(3):140–5.
4. Young RH, Scully RE. Fibromatosis and massive edema of the ovary, possibly related entities: a report of 14 cases of fibromatosis and 11 cases of massive edema. *Int J Gynecol Pathol*. 1984;3(2):153–78.
5. Natarajan A, Wales JK, Marven SS, Wright NP. Precocious puberty secondary to massive ovarian oedema in a 6-month-old girl. *Eur J Endocrinol*. 2004;150(2):119–23.
6. Machairiotis N, Stylianaki A, Kouroutou P, Sarli P, Alexiou NK, Efthymiou E, et al. Massive ovarian oedema: a misleading clinical entity. *Diagn Pathol*. 2016;11(1):18.
7. Hark AB, Sigamani K, Thukkaram C, Ramamurthy M, Sekar M. Massive ovarian oedema-a case report. *J Clin Diagn Res*. 2016;10(8):ED03–4.
8. Russell P, Farnsworth A. Surgical pathology of the ovaries. Edinburgh: Churchill Livingstone; 1989.
9. McCluggage WG. Recent advances in immunohistochemistry in the diagnosis of ovarian neoplasms. *J Clin Pathol*. 2000;53(5):327–34.
10. Zheng W, Senturk BZ, Parkash V. Inhibin immunohistochemical staining: a practical approach for the surgical pathologist in the diagnoses of ovarian sex cord-stromal tumors. *Adv Anat Pathol*. 2003;10(1):27–38.

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**Cite this article:** Lakshmi K A, Johnson T. Massive edema and fibromatosis of ovary: A rare case report. *Indian J Pathol Oncol* 2024;11(1):87-89.