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CASE REPORT

Ovarian Hemangioma: A Rare Entity

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Abstract

Ovarian hemangioma is a rare vascular tumor affecting the female genital tract. We are presenting a case of ovarian haemangioma in an adult woman presenting with complaints of pain in the abdomen and dysmenorrhea. Radiologically, she was diagnosed as a case of ovarian cyst with torsion, which was confirmed on per-operative examination. On histopathological examination, it was diagnosed as a cavernous haemangioma of the ovary.

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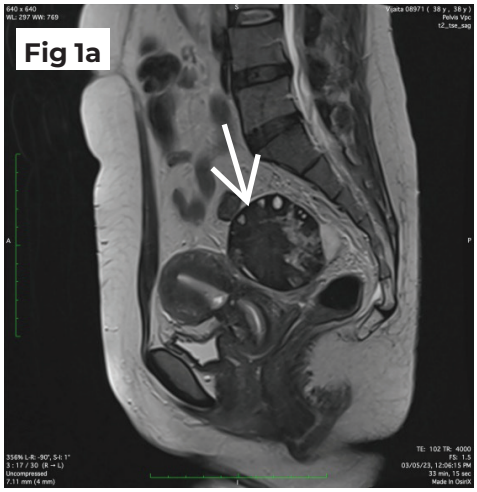
Introduction

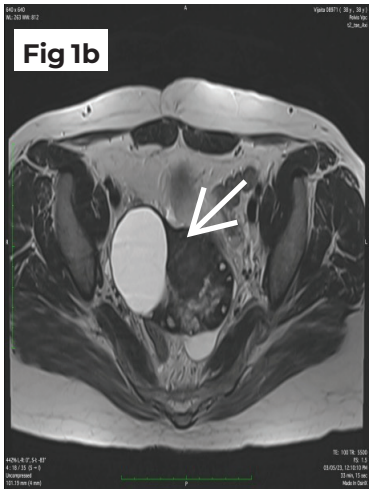
Ovarian hemangioma is a rare entity even though the ovary is a highly vascular organ.[1] It was first described in *1869*.[2,3] Because of the periodic changes that ovaries go through during reproductive cycles, the tumor is rare.[2,3] It may occur at any age from infancy to 80 years.[2,4] The tumor may range from 3 to 24 cm in size.[4,5] It is usually unilateral but may be bilateral too.[1] Ovarian hemangioma can be associated with syndromes like Kasabach-Merritt Syndrome. Sometimes, it may present with ascites and increased Ca-125 level which can mimic ovarian carcinoma. Ovarian haemangioma can also be present in association with endometrial hyperplasia and germ cell tumor of the ovary.[2,4]

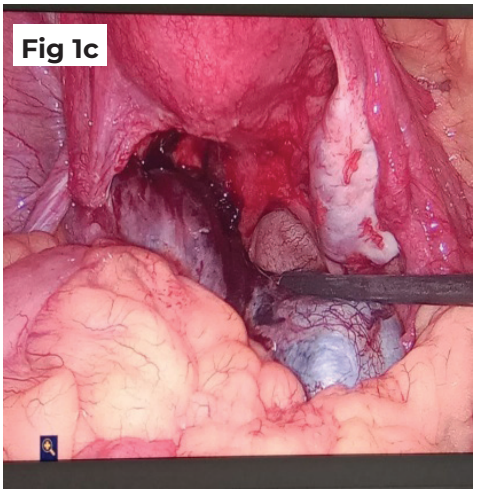
Case Report

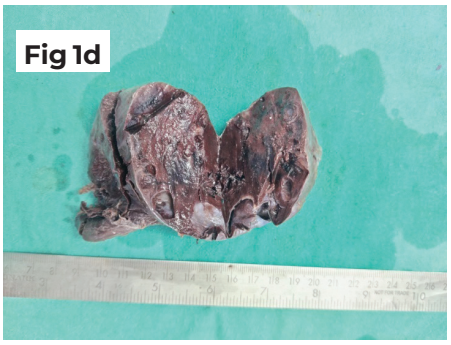
A 38-years-old lady presented with left lower abdomen pain for 5 months, not relieved by any medication. She also complained of dysmenorrhea for 5 months. An ultrasound scan was done outside our Institute and was reported as a left ovarian cyst (Images were suboptimal, hence could not be included in the paper). Further radiological examination by MRI of the lower abdomen showed a well-defined, partially cystic, heterogeneous lesion with peripherally placed follicles in the pouch of Douglas and left ovary was not separately visualized, consistent with left ovarian cystic lesion with torsion (Figures 1a and b). Intra-operatively, this was diagnosed as torsion of ovarian cyst which was excised and submitted for histopathological examination (Figure 1c). On gross examination, ovarian cyst measured 9x6x4 cm in size. The cut section of the ovary was solid and covered by blood clot (Figure 1d).

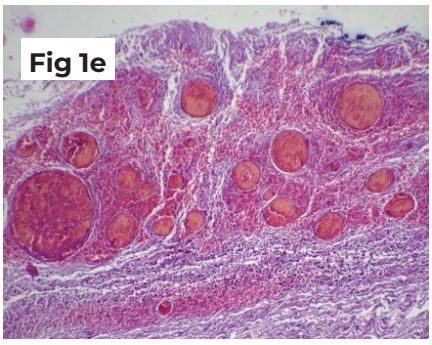
Histopathological examination revealed cavernous haemangioma consisting of dilated blood vessels of varying sizes (Figure 1e). These vessels were lined by flattened endothelium and the lumen was occupied by blood (Figure 1f). Surrounding

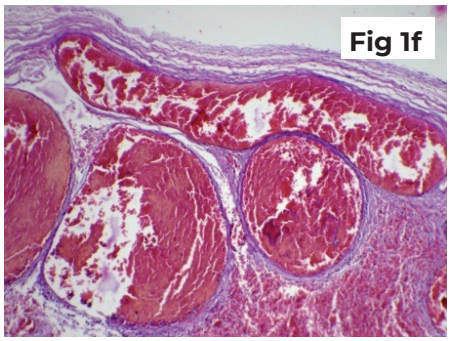












Figures 1a & 1b: Sagittal and axial T2W MR images of the pelvis show a well-defined heterogeneous lesion in the POD (white arrows). There is cystic component laterally and lesion appears hypo-intense medially with multiple small peripheral follicles. Mild ascites is also present. **Figure 1c:** Intraoperative image of left ovarian cyst with torsion. **Figure 1d:** Cut section of ovarian cyst filled with blood clots. F**igure 1e:** Numerous large dilated blood vessels of varying sizes filled with blood on low power magnification (10X). **Figure 1f:** Blood vessels lined by endothelial cells on high power magnification (40X).

ovarian stroma showed fibrocollagenous tissue and infiltration by mixed inflammatory cell infiltrate. No evidence of atypical cells or mitotic figures was noted.

Discussion

Hemangioma is a benign lesion that occurs due to a failure in the canalization of vascular channels resulting in the formation of abnormal vessels of variable sizes.[2,4] They are classified as either cavernous or capillary, based on the size of the blood vessels. The lesions composed of large vessels are called as cavernous haemangioma, whereas lesions composed of small vessels are labeled as capillary haemangioma.[2,4] Most ovarian hemangiomas are of cavernous type as in our case.[1-4]

In most of the cases, ovarian hemangiomas are asymptomatic and present as incidental findings at the time of autopsy.

Hatice *et al.*[4] had reported a case study of 45 cases of ovarian hemangiomas and their clinical presentation. Most of them presented with abdominal pain but four of them were presented with features of ovarian torsion similar to the present case.

Ovarian hemangiomas can be associated with ascites, pleural effusion, thrombocytopenia, and elevated CA125 mimicking malignancies.[2,6] The decreased platelet count can be considered as Kasabach and Merritt Syndrome.[5,7]

Ovarian hemangiomas can be associated with other ovarian neoplasms like mature cystic teratoma, papillary serous carcinoma, and mucinous cystadenoma and also non-ovarian neoplasms such as cervical carcinoma, endometrial carcinoma, and recto-sigmoid carcinoma. Hence, thorough evaluation is needed to exclude other neoplasms.[6]

Ovarian hemangiomas are rare vascular neoplasms that are non-functional.Aetiopathogenesis of the ovarian hemangioma is unclear. Infection, pregnancy, and hormonal disturbances could be contributing factors for the growth of the lesion.[6]

Few controversial theories have been proposed for the pathogenesis of ovarian hemangioma. The first hypothesis states that pre-existing luteinized stromal cells stimulate the development of ovarian hemangioma by the release of oestrogen which has stimulatory effects on vessels.

The second hypothesis suggests that ovarian expansile hemangioma causes mass effect on the surrounding stroma producing stromal luteinisation.[2,5,7] This results in the production of androgens which convert into estrogens in adipose tissue and this stimulates the endometrium. Thus, endometrial hyperplasia, virilization, male pattern hair loss are seen in some cases.[6,7] This could be the reason for its association with endometrial carcinoma.

Ovarian hemangiomas need to be distinguished histopathologically from proliferations of dilated blood vessels in the ovary's hilar area. A true hemangioma is characterized by a characteristic mass of vascular channels and very little stroma.[2-4]

Other differential diagnoses include lymphangioma, ovarian teratoma with a hematogenous component, and angiosarcoma. The absence of pale eosinophilic components in the vascular channels helps to exclude lymphangioma. Some of the ovarian teratomas show exclusive vascular components. They may be confused as hemangiomas. Hence, careful sampling and processing of the tissue is important to look for the presence of teratomatous components like respiratory and squamous epithelium. Vascular spaces lined by endothelial cells exhibiting atypia, pleomorphism, and mitotic activity are indicative of an angiosarcoma.[2,5,6] These features were absent in the present case suggesting ovarian hemangioma.[2]

Conclusion

When diagnosing hemorrhagic ovarian lesion, ovarian haemangiomas should be taken into account. To prevent needless radical surgery, an accurate preoperative diagnosis is essential. To determine any associations with other ovarian and non-ovarian neoplasms, including syndromes, patients and histological specimens of ovarian hemangiomas should be thoroughly investigated.

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