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# Cavernous Hemangioma of Ovary as Incidental Finding in a Tertiary Care Hospital - A Rare Case Report

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## ABSTRACT

There have only been a few cases of ovarian hemangiomas documented to date, making them benign and uncommon tumours of the female genital tract. A 40-year-old woman with lower abdominal pain was hospitalised to our hospital. An ultrasound scan showed a bilateral ovarian cystic tumour measuring 7 cm. For this patient, a total abdominal hysterectomy was done. A follicular cyst was discovered under a microscope in the left ovary, and an incidental finding of cavernous hemangioma in the right ovary that consisted of blood-filled, thin-walled vascular channels was discovered. Ultimately, a primary ovarian hemangioma of the cavernous kind was diagnosed. This uncommon benign tumor's clinicopathologic appearance is examined.

***Key words:*** total abdominal hysterectomy, cavernous hemangioma, and ovary

## INTRODUCTION

Rarely do vascular tumours of the female genital tract occur, particularly those that originate in the ovary. There aren't more than 60 cases of ovarian hemangioma that have been thoroughly documented. (1-3) The majority of ovarian hemangiomas are found by accident or during an autopsy. Ovarian torsion or ascites (4) cause an ovarian mass and acute abdomen in other situations. This article's goal is to provide an overview of the clinicopathologic characteristics and differential diagnosis of ovarian hemangiomas.

## CASE REPORT

A 40-year-old woman complained of lower abdominal pain when she was brought to our hospital. An ultrasound examination showed a bilateral ovarian cystic tumour measuring 7 cm. For the patient, a total abdominal hysterectomy was done. A specimen of the uterus cervix with bilateral adnexa was sent to us. The uterine cervix's cut segment was unremarkable. A solitary serous fluid-filled cyst is visible in the left ovary, while a multiloculated blood cyst is visible in the right ovary. Under a microscope, a follicular cyst was seen in the left ovary, and an accidental cavernous hemangioma in the right ovary, comprised of blood-filled, thin-walled vascular channels, was discovered.

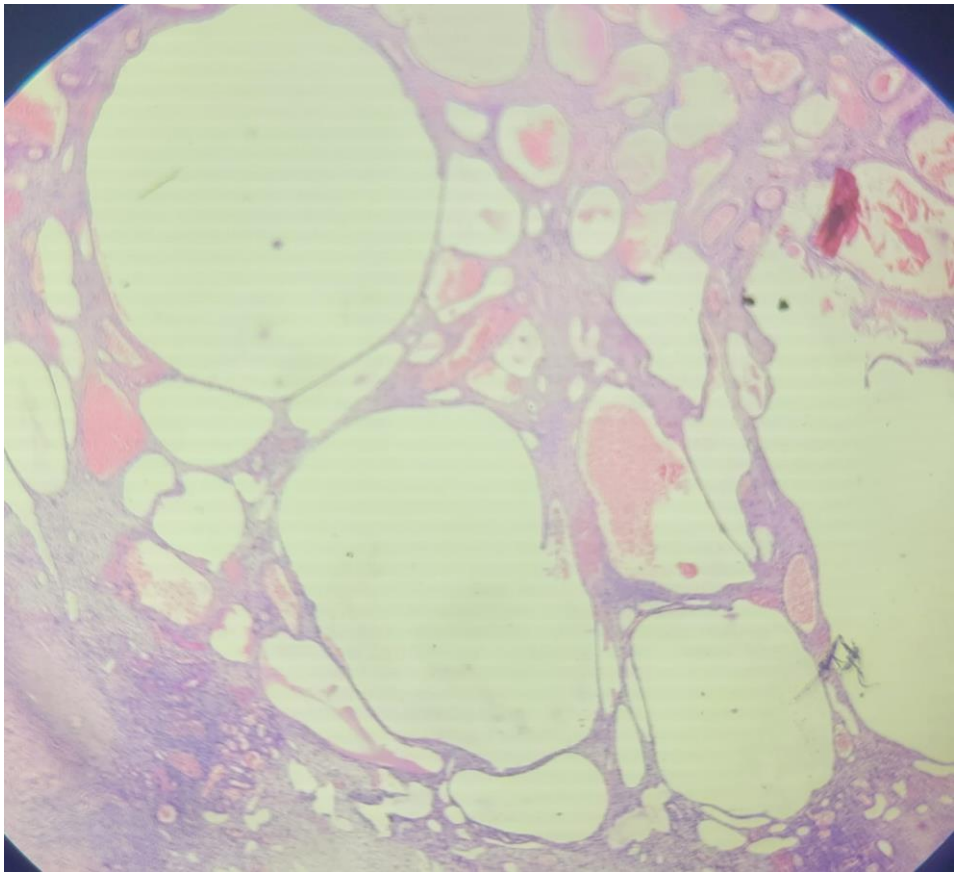

**Fig.1 Microscopy: reveals multiple thin-walled vessels and Vascular channels lined with bland looking epithelium (H&E stain 10x)**

## DISCUSSION

Benign vascular tumours known as hemangiomas typically show no symptoms and go away on their own. They are detected in infants through the elderly and are most frequently discovered in the skin and liver. Hemangiomas can also be categorised as cavernous (big blood vessels) or capillary (small blood vessels)5. With an incidence rate of up to 20%, cavernous liver hemangiomas are the most prevalent kind.

Ovarian hemangiomas have been reported rarely (5,6); a few have been associated with isolated hemangiomas elsewhere or with generalized hemangiomatosis (5). Many have been incidental findings at autopsy. These tumors are most often situated in the medulla and hilus, and they usually are of the cavernous type.

Although they typically are of only academic interest, they must be distinguished from the numerous vessels in the ovarian medulla of many older women. Examples of ovarian hemangiomas associated with prominent stromal luteinization have been reported (6); in such cases, an ovarian steroid cell tumor with a prominent pseudovascular degenerative change should be excluded. Uncommon vascular tumors reported in the ovary include lymphangiomas (7), infantile hemangioendothelioma (8), hemangiopericytoma (9), and glomus tumor (10).

Numerous nonvascular tumours with noticeable vessels fall within the differential diagnosis of vascular tumours. These include fibromas, sclerosing stromal tumours, endometrioid stromal sarcomas, and metastatic endometrial stromal sarcomas. The perivascular architecture of the tumour cells and their positivity for smooth muscle actin and vimentin, along with their absence of staining for calretinin and inhibin, allow glomus tumours to be differentiated from GCT (9).

Ovarian hemangiomas typically cause no symptoms and are discovered by incidentally after surgery or autopsy; but, in a small

number of cases, an ovarian mass, an acute abdomen from ovarian torsion, or ascites may be present. As in previous instances, our patient arrived at the hospital complaining of lower abdomen pain and a hemangioma that was unintentionally found during a microscopic inspection. The tumour in this instance was unilateral.

Massive ascites that clinically resemble ovarian cancer have been linked to ovarian hemangiomas. (11). It has been documented that ovarian hemangioma can cause pseudo-meigs syndrome, stromal luteinization, stromal hyperplasia, and thrombocytopenia as consequences. (2,11)

One of the symptoms of Kasabach and Merritt syndrome is thought to be a lowered platelet count, especially in cases that are bilateral and have diffuse abdominopelvic hemangiomatosis (2). There have also been reports of ovarian hemangioma coexisting with non-ovarian neoplasms, including tubal, cervical, endometrial, and rectosigmoid carcinomas.

The cause of ovarian hemangiomas is unclear and debatable. Pregnancy, other hormonal influences, or infections have all been linked to the establishment of hemangiomas, which have been classified as either hematomatous malformations or genuine neoplasms.(9). According to another hypothesis, the presence of an expansile ovarian hemangioma induces stromal luteinization; these luteinized stromal cells produce steroid hormones, mainly androgens, which are subsequently converted to estrogens in adipose tissue, that cause unopposed estrogenic stimulation to the endometrium.

The end results of this phenomena may present with postmenopausal or dysfunctional uterine bleeding, male type hair loss and elevated androgen and estradiol levels. (13)

Microscopically, they are composed of dilated, blood filled, generally thin-walled vessels ranging from small to large size lined by a single layer of flattened endothelial cells. Inflammation, hemorrhage, calcification and hemosiderin deposits in stroma may be present. (14)

**Table 1: Differential diagnosis of ovarian hemangioma**

| Clinical differential diagnoses | Pathologic differential diagnosis |
|---|---|
| Tubo-ovarian mass<br>Twisted ovarian cyst<br>Chocolate cyst | Vascular proliferation<br>2. Lymphangioma<br>3. Monodermal teratoma with vascular component prominence.[2] |

Proliferations of dilated hilar blood vessels are the most troublesome phenomenon that enters the differential diagnosis. In contrast to vascular proliferation, which is typically smaller and diffused, proliferating vascular channels with minimum levels of stroma should produce a confined lesion that is distinct from the rest of the ovary in order to identify the lesion as a real hemangioma.(15,16)

In this instance, hemangioma rather than vascular proliferation is the primary interpretation due to the several thin-walled vascular channels of varying sizes that are separated with a small amount of stroma. Hemangioma and lymphangioma should be differentiated by the presence of pale eosinophilic homogenous material inside the vascular channels.

Because teratomas have a significant vascular component, they are included in differential diagnosis. To diagnose a tumour as a pure hemangioma in such circumstances, meticulous sampling is necessary to rule out the existence of other teratomatous features. (17) In order to rule out monodermal teratoma with angiomatous component in this instance, serial sections were investigated.

## CONCLUSION

Ovarian hemangiomas are exceptional tumors that are generally unexpectedly found amid surgery or autopsy. The favored course of treatment is surgical excision of the affected region. Since ovarian hemangiomas have been connected to gynecologic cancers, surgical excision of the affected region and

cautious screening of the contralateral ovary and endometrium for potential cancer are essential. Pathologists have a hurdle in diagnosing such an uncommon occurrence.

### *Declaration by Authors*

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