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# OVARIAN CYST MASQUERADING AS CERVICAL STUMP LEIOMYOMA IN A WOMAN AFTER SUBTOTAL HYSTERECTOMY: AN UNUSUAL PRESENTATION.

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## ABSTRACT

**Introduction:** Pelvic masses that seem to be ovarian masses on imaging are many times, actually fibroids, which can be subserosal, or true/ false broad ligament fibroids. Many cases of fibroids mimicking ovarian masses/ malignancy have been reported, but rarely any case can be found where an ovarian mass, especially a hemorrhagic cyst mimicked a fibroid. We present a case of a woman who, was post subtotal hysterectomy, presented with a midline homogenous mass suggesting a cervical stump fibroid but on operation table was diagnosed to be an ovarian mass. **Case report:** 47years old P2L2 woman presented with insidious dull aching lower abdominal pain and an ultrasound report showing a midline 10 x 10cm pelvic mass. She had undergone a subtotal abdominal hysterectomy 15 years ago for symptomatic uterine fibroid. Examination and higher imaging suggested a cervical stump fibroid. On laparotomy, it was a well-circumscribed oval mass with a smooth surface, stuck in the pouch of Douglas originating from the right infundibulopelvic ligament with torsion (one twist). It was a thick-walled cyst with dried spongy hemorrhagic content. Histopathology confirmed the diagnosis of hemorrhagic cyst. **Conclusion:** A mass that is likely fibroid on imaging pre-operatively rarely turns out to be an ovarian mass during surgery. A hemorrhagic ovarian cyst can present in a subacute form mimicking a solid neoplasm or a solid fibroid.

**KEYWORDS :** hemorrhagic ovarian cyst, fibroid, cervical stump, torsion.

## CASE REPORT:

47years old P2L2 woman presented to our center with insidious dull aching lower abdominal pain and an ultrasound report showing a midline 10 x 9.9cm pelvic mass. She had undergone an abdominal hysterectomy 15 years ago for symptomatic uterine fibroid (however, it wasn't confirmed whether an oophorectomy was done or not). On pelvic examination, a healthy cervix (with a partial posterior lip) could be seen through the speculum [Figure 1], suggesting that the previous surgery was a subtotal hysterectomy.

**Figure 1:** cervical stump.

Also, the mass was firm, immobile, and palpable just beyond the cervix/ cervical stump. Her tumor markers were: CA125- 35, CA19.9- 4.2and Cea- 2.3. So chances of ovarian malignancy were less likely. Computed tomography suggested a well-defined lesion in relation to the cervical stump with a small calcific focus within. Other structures were normal, but ovaries were not visualized. For better tissue characterization, an MRI pelvis was done which suggested a cervical stump lesion that appeared hypointense in T1WI and heterogenous in T2W/STIR sequences with predominantly hypointensity [Figure 2a, 2b]. Parametrium was suggested as normal and ovaries were not visualized. Lesion exerted a mass effect on the bladder and there was no hydroureteronephrosis. No vascularity was seen on sonography.

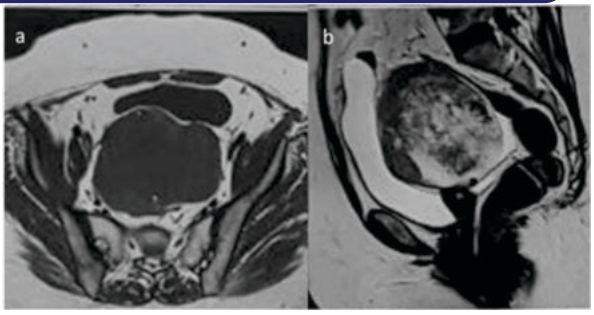


Figure 2a: T1 w axial image showing a well-defined hypointense mass in the midline pelvic region. Fat planes with surrounding structures maintained. Both ovaries could not be separately seen.
Figure 2b: T2w axial sagittal image showing a heterogeneous well-defined mass in the midline pelvis abutting the cervical stump.

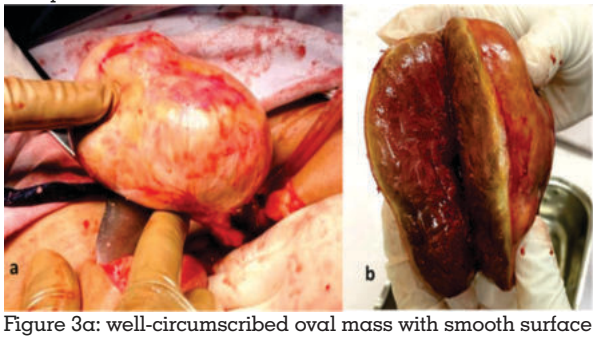


Figure 3a: well-circumscribed oval mass with smooth surface originating from right infundibulopelvic ligament with torsion (one twist).
Figure 3b: cut section of the mass showing thick-walled cyst with homogenous brownish sponge-like material, likely dried hemorrhage.

Keeping in mind, the midline location and relation of mass with the cervical stump, and negative tumor markers, the possibility of cervical stump fibroid was kept and she was planned for laparotomy.

Intraoperatively, it was a well-circumscribed oval mass with a smooth surface in the pouch of Douglas originating from the right infundibulopelvic ligament with torsion (one twist) with the fallopian tube stretched over the mass [Figure 3a]. The mass was stuck into the pouch of Douglas, it was released by adhesiolysis. Right infundibulopelvic ligament clamped, cut, and ligated. The uterus and left tube and left ovary were absent. The capsule of mass was intact. On the cut section [Figure 3b], it was a thick-walled cyst with homogenous brownish sponge-like material, likely dried hemorrhage. There was no focus of necrosis.

On histopathology, it was confirmed to be a hemorrhagic cyst. The cause of pain must have been torsion.

The patient is doing well post-operatively.

## DISCUSSION:

Many times, pelvic masses that seem to be ovarian masses on imaging, are fibroids, which can be subserosal, or true/ false broad ligament fibroids. Many cases of fibroids mimicking ovarian masses/ malignancy have been reported, but rarely any case can be found where an ovarian mass, especially a hemorrhagic cyst mimicked a fibroid. The characteristics that lead to fibroids mimicking ovarian mass on imaging are the location of the mass is adnexal, solid cystic appearance leads to suspicion of ovarian mass (most commonly epithelial), but it can also be seen in cystic and calcific degeneration of the fibroid. Also, broad ligament fibroids are associated with pseudo-meigs syndrome and produce elevated CA125 levels leading to confusion with metastatic confusion [1].

However, a mass that is likely fibroid on imaging pre-operatively, rarely turns out to be an ovarian mass during surgery. An atypical point in our case was that the patient was post-hysterectomy which was subtotal and the cervix was retained in situ in that prior surgery. Also, our imaging showed non-visualized ovaries, but it was unsure whether the ovaries were removed with hysterectomy or not. Therefore, its ovarian origin was less likely. Pedunculated uterine, cervical, and true broad ligament fibroid, especially with degeneration, may be mistaken for a lesion of ovarian origin and therefore must be kept in the differential diagnosis [2]. Unilateral solid ovarian lesions can be Fibroma, Brenner's tumor, Thecoma, etcetera. Magnetic resonance imaging is useful in differentiating typical leiomyoma from solid malignant ovarian mass [1]. On T1-weighted images, leiomyomas demonstrate low to intermediate signal intensity, and on T2-weighted images, they demonstrate a low signal intensity, however, can appear heterogeneous if calcific or hyaline, or cystic degenerations are present [2]. The midline location in the pelvis and low CA125 were also not in favor of ovarian origin mass. Literature has described four sonographic patterns of a hemorrhagic cyst: diffused dense echo pattern (20%), mixed pattern (24%), sponge-like pattern (29%), and cystic pattern (26%) [3][4]. Also, a fifth pattern is ring blood flow (ring of fire) with high velocity and low resistance without internal blood flow [3][4].

A hemorrhagic ovarian cyst can present in subacute form, which includes an early stage of clot formation within the cyst. In this stage, on imaging, it can mimic a solid neoplasm [5] or a solid fibroid, depending upon its location in the pelvis. Usually, hemorrhagic cysts show changes in 4 to 6 weeks [5], into lysis and liquefaction of the clot, and/or regression to complete resolution. Rarely, the cyst may get entrapped in a stage for a prolonged time and may not show any further changes as expected. In our case, the time from detection (on sonography at another center, initially) of midline pelvic solid mass to surgery was approximately 4months.

Our patient was relieved of pain after surgery, and her pain was attributable to the torsion of the cyst, its large size, and the stretching of the infundibulopelvic ligament.

## CONCLUSION:

A mass that is likely fibroid on imaging pre-operatively rarely turns out to be an ovarian mass during surgery. A hemorrhagic ovarian cyst can present in a subacute form mimicking a solid neoplasm or a solid fibroid.

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