CASE REPORT https://doi.org/10.3126/njr.v15i2.95813

Case Report of a Solid Adnexal Mass: Unravelling the Riddle of Origin A Case Report

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Received: February 5, 2026 **Accepted:**March 28, 2026 **Published:** April 10, 2026

Cite this paper:
Burlakoti R, Pant OB, Basnet B, Ghimire RK. Case Report of a Solid Adnexal Mass: Unravelling the Riddle of Origin. *Nepalese Journal of Radiology* 2026;15(2):65-8. **https://doi.org/10.3126/njr.v15i2.95813**

ABSTRACT

A pedunculated lesion in the adnexa is a common cause of pelvic pain in females and is often difficult to diagnose with a single modality of imaging. Here, we present a case of a young female who presented with acute pelvic pain and was diagnosed with a pedunculated ovarian fibroma. Ovarian fibroma is one of the common benign ovarian neoplasms, which is often difficult to diagnose preoperatively. A pedunculated uterine fibroma or other solid malignant adnexal lesions may be the differentials of a pedunculated ovarian fibroma.

Keywords: *Leiomyoma; Ovarian Neoplasms; Pelvic Pain*

ININTRODUCTION

Gynecological causes of acute pelvic pain range from physiological changes to acute surgical emergencies like torsion and ectopic pregnancy. Ultrasound is the initial diagnostic modality to evaluate acute pelvic pain, and cross-sectional imaging techniques like CT and MRI are often required for problem-solving.[1]

Adnexal masses may arise from the ovary, the broad ligament, the fallopian tubes, or may be a pedunculated mass of uterine origin. Such benign adnexal masses may be complicated by torsion, which can occur in a normal ovary as well.[2]

Pedunculated ovarian tumors are rarely described in the literature. Here, we present a case of a 31-year-old female with a pedunculated ovarian fibroma, presenting with acute pelvic pain, which was treated with surgical excision.

CASE REPORT

A 31-year-old female patient presented to the ultrasound room for a transvaginal ultrasound (TVS) with a history of pelvic pain on the right side for 3 days. Her history was unremarkable. She had a regular menstrual cycle, no previous history of abdominal or pelvic surgery, and no family history of genito-urinary or breast malignancy.

Her urine pregnancy test was negative. On TVS, the right ovary was bulky. There was a separate solid hypoechoic lesion measuring 3.7x3.4x2.9

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cm in the right adnexa with minimal internal vascularity (Figure 1). The lesion was abutting the ovary laterally and the uterus medially. Minimal free fluid was noted in the pelvis. Though a urine pregnancy test was negative, pelvic fluid was aspirated to rule out ruptured ectopic pregnancy, and showed a straw-colored aspirate, confirming the absence of hemoperitoneum. A diagnosis of pedunculated uterine fibroid with intermittent torsion was made. An MRI was advised for determining the location and further evaluation.

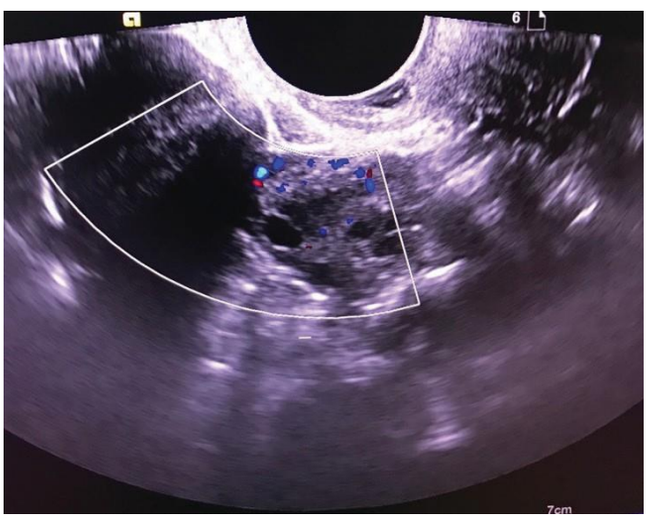

Figure 1: Transvaginal ultrasonography image showing a hypoechoic mass in the right adnexa, separate from the ovary

Plain MRI demonstrated an enlarged right ovary with a well-defined lobulated lesion in the right adnexa. A pedicle-like structure was noted between the lesion and the ipsilateral ovary, which was suggestive of ovarian origin (Figure 2). This lesion was abutting the uterus and displayed low signal intensity on T1, heterogeneous signal on T2, similar to a fibroid, but also demonstrated peripheral areas of diffusion restriction. The contrast-enhanced study, which was done subsequently after a day, revealed that the mass had changed its position along the axis centered at the ovary, demonstrating no relation with the uterus and proving its ovarian origin. There was mild enhancement, and vascular supply was noted from vessel supplying the right ovary (Figure 3). Intermittent torsion of the lesion was considered as a cause for the patient's pain, which decreased on the second day following admission. Thus, a provisional diagnosis of pedunculated solid ovarian tumour was given with differential diagnosis of fibroma/ thecoma.

The patient then underwent laparoscopic surgery with right ovarian tumour excision. Intraoperative findings proved the tumour to be of ovarian origin. On histopathology, the diagnosis of right ovarian fibroma was confirmed without mitosis, necrosis, or cellular atypia.

Figure 2: T2WI MRI showing a solid mass in the right adnexa abutting a normal appearing right ovary posteriorly and uterus medially. The pedicle is seen between the right ovary and the mass

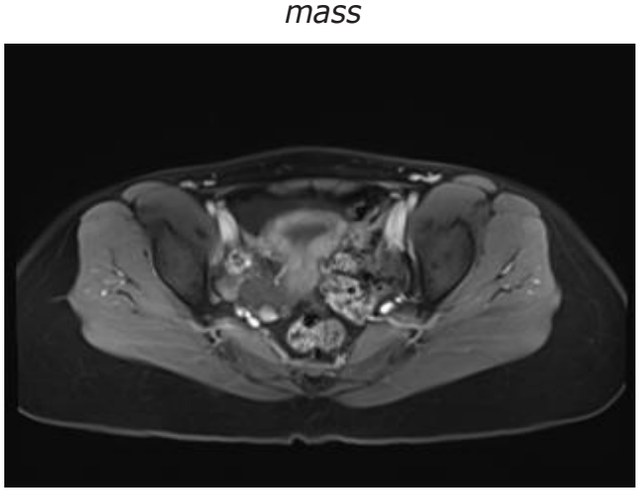

Figure 3: Contrast-enhanced fat-suppressed T1WI on the next day showing the changed position of the lesion centered around the ovary and its vascular supply

DISCUSSION

Fibromas are benign and the most common sex cord ovarian tumor, accounting for about ~4% of all ovarian neoplasms. Fibromas, thecomas, fibrosed thecomas, and fibrothecomas are ovarian tumors of gonadal stromal origin and may be variants of a single entity.

Ovarian fibromas are usually difficult to diagnose preoperatively. They are commonly misdiagnosed as uterine fibroids, because of similar imaging appearance, or sometimes as malignant ovarian tumors because of accompanying ascites and slightly increased serum CA-125 level.[3,4]

Ovarian fibromas are seldom bilateral and vary in size from microscopic to extremely large ones. Although infrequently diagnosed before age 30, they can occur at any age; the average age of diagnosis is in the latter half of the fifth decade of life. Although sonography is considered the imaging modality of choice for detecting ovarian masses, the sonographic features of ovarian fibrothecoma are nonspecific. These tumors usually present as solid, hypoechoic masses with strong attenuation on ultrasound. Other adnexal masses, including both primary and secondary tumors such as metastasis, granulosa cell tumor, and pedunculated uterine myomas, can also present similarly as solid, hypoechoic masses.[5,6]

As the lesion in our case was of indeterminate origin on USG, MRI was advised. Unenhanced MRI has a sensitivity and specificity of 76 and 97 %, respectively, in the diagnosis of ovarian cancer, and assessment with contrast-enhanced MRI increases sensitivity to 81 % and specificity to 98 %.[7]

In our case, due to its pedunculated nature, a diagnosis of fibroid was considered on the initial ultrasound. On MRI, the lesion was exophytic, connected to the normal appearing right ovary by the pedicle. The lesion showed peripheral areas of restricted diffusion on DWI, while on contrast MRI, it showed mild enhancement and was supplied by the right ovarian vessels. Hence, its ovarian origin was confirmed. Typically, ovarian fibromas show low signal intensity on T2-weighted images as well as on DWI, termed as 'dark T2/ dark DWI' and categorized as typically benign. Among the ovarian fibromas, the incidence of exophytic ovarian fibroma is approximately 46 %. The ipsilateral ovary is otherwise normal in appearance and is connected to the fibromas by a pedicle-like structure or is closely attached to the periphery of the fibroma.[8,9]

Complications of pedunculated ovarian fibroma include ovarian torsion, degenerative changes within the lesion, mass effect on surrounding structures like the urinary bladder, and rectal compression. We noted a change in the position of the solid adnexal lesion in our case on the subsequent contrast-enhanced MRI when the patient's pain had also subsided, suggesting intermittent torsion. The presence of an ipsilateral adnexal mass is one of the risk factors for ovarian torsion.9 Classically, patients with adnexal torsion are of reproductive age and present with mild, intermittent, or excruciating pelvic pain. The classic gray-scale US features of ovarian torsion are enlargement of the ovary, hypoechoic stroma, and peripheral follicles. [10]

CONCLUSION

In conclusion, exophytic ovarian fibromas is a benign condition that is treated surgically and should be preoperatively considered in the differential diagnosis of any solid adnexal mass that may mimic a pedunculated leiomyoma.

CONFLICT OF INTEREST

None

SOURCES OF FUNDING

None

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