

# Ovarian Fibroid Mimicking as Subserosal Uterine Fibroid

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**Abstract:** Ovarian leiomyomas are one of the rarest benign ovarian tumors accounting for approximately 0.5-1%. They often discover incidentally in routine physical examination or during surgery. Most of the patients are asymptomatic, or may present with abdominal pain or palpable mass. Herein, we reported a large ovarian leiomyoma in a 18-year-old girl with lower abdominal pain. Magnetic resonance imaging scan (MRI) revealed large adnexal mass. Microscopic appearance was typical for leiomyoma. Major differential diagnostic considerations are subserous leiomyomas or thecoma/fibroma.

**Keywords:** Ovarian Fibroid, subserosal fibroid, ovarian sparing surgery, laparoscopy, fibroma

## 1. Introduction

Ovarian leiomyomas are one of the rarest benign ovarian tumors accounting for approximately 0.5-1%. [1] The incidence of primary ovarian leiomyomas is particularly low. At present, less than 70 cases of primary ovarian leiomyomas have been reported worldwide. [2] Most of them are diagnosed incidentally during routine physical examination or surgery and aged between 17-79 years. [3] Most of the patients are asymptomatic, and Ovarian leiomyomas are frequently diagnosed as subserous leiomyomas or fibromas until confirmed histopathologically and it may confused with other spindle cell tumors such as thecoma/fibroma as they have gross and histopathological similarities. Herein we discuss a rare case of unilateral primary ovarian leiomyoma that was unusually large and presented in a 18 years old adolescent girl.

## 2. Case Summary

A 18 year old unmarried girl was referred to our gynecology department with history of ultrasonographically detected lower abdominal mass at a local clinic. She had a past history of lower abdominal pain (on-off) since 1 year. Abdominal examination revealed a firm, mobile, defined soft tissue mass, extended 3 cm below the level of umbilicus on left side. Other physical examination findings were normal and laboratory data, including the various tumor markers were within normal limits. Vaginal examination was not performed since she was unmarried. Transabdominal ultrasonography shows a solid mass arising from left side of uterus which is hypoechoic in nature, measuring 7\*6 cm? subserosal fibroid. Pelvic MRI showed large well defined T2W hypointense lesion measuring approx. 6.3 (SI) \*6.8 (TR) \*4.0 (AP) cm in left side of pelvis. With suspicious connection of lesion with posterior lip of cervix via a thin pedicle and the lesion appears to bulge

exophytically from the cervix and lesion was close proximity with left ovary, surrounded by engorged vessels S/o? subserosal fibroid? Cervical fibroid (Fig.1). Patient was planned for surgery (Laparoscopy).

Intraoperative findings: Mass measuring 6\*6 cm in diameter was found to arise from left Ovary from its cortex, reaching in POD, hard in consistency. Mass was removed from healthy left ovarian tissue and ovary was reconstructed (ovary-sparing surgery). The uterus did not contain any leiomyomas concurrent.

### Pathological findings

Microscopic appearance~ shows intersecting fascicles of smooth muscle fibers having cigar shaped nuclei, with inconspicuous nucleoli and moderate eosinophilic cytoplasm. With evidence of ovarian tissue identified. No evidence of increased cellularity/ atypia/mitosis/malignancy seen. Suggestive of ovarian leiomyoma. (Fig.2).

The post-operative course was uneventful.

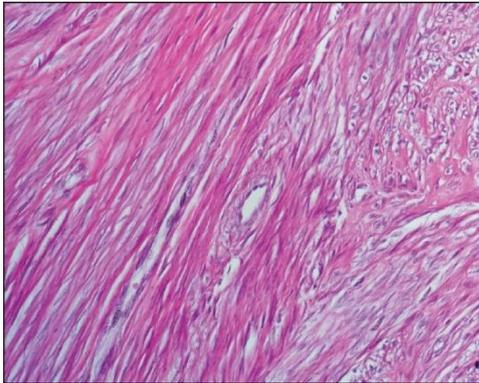


Figure 1: MRI Film

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**Figure 2:** Interlacing bundle of spindle cells

### 3. Discussion

Primary leiomyoma of the ovary is a rare benign ovarian tumor, and usually are asymptomatic and diagnosed incidentally. [4-8] Ovarian leiomyomas can be subdivided as primary and parasitic leiomyomas. Primary ovarian leiomyomas are defined as lesions that originate from ovarian tissues, including the intraovarian blood vessels, smooth muscle fibers, or similar tissues within the ovarian stroma and tunica albuginea. [9] In contrast, parasitic ovarian leiomyomas are extraovarian in origin and are attached to the ovary [10], it may be a subserosal pedunculated uterine leiomyoma that loses its attachment to the uterus and has connections with the ovary. This obviously did not occur in the present case, since the uterus did not exhibit any signs of leiomyoma. There are a number of theories of the origin of these tumors. They most likely arise from smooth muscle cells in the ovarian hilar blood vessels, but other possible origins include cells in the ovarian ligament, smooth muscle cells or multipotential cells in the ovarian stroma, undifferentiated germ cells, or cortical smooth muscle metaplasia. [11, 12]

Ultrasound has been well documented as the best diagnostic modality for diverse pelvic organ diseases. However, in ovarian leiomyomas, the features observed using an ultrasound have been reported as nonspecific solid masses without demonstration of the origin. [13, 14] In addition, it is difficult to distinguish ovarian leiomyomas from other ovarian tumors, even with CT or magnetic resonance imaging (MRI). These difficulties are due to the variable intensity characteristics displayed by the ovarian mass. [15] Evidence has indicated that the location of the tumors is one of the reasons for the difficulties which are associated with minimally invasive surgery as primary ovarian leiomyomas are completely enclosed within the ovary itself. [16] As in our case it was a primary ovarian leiomyoma and a laparoscopic approach was used and ovary was spared.

Wei et al. [17] found that ovary-sparing surgery was performed in only 50% (4 of 8) of the cases of ovarian leiomyomas in pediatric and young adults who were younger than 25 years of age.

Likewise, Lim et al. [18] reported an unfortunate case of a 17-year-old patient with bilateral ovarian leiomyomas and underwent bilateral salpingo-oophorectomy.

### 4. Conclusion

It is difficult for gynaecologists to accurately diagnose ovarian leiomyomas pre operatively due to the rarity of this condition. However, because these tumours develop usually in young patients and because they are typically benign in nature, so ovary-preserving surgery should be consider as a first choice in the surgical management of ovarian leiomyomas after excluding the possibility of malignancy.

### 5. Future Scope

In future, additional studies are needed to investigate the diagnostic methods and to follow-up the long-term outcomes of patients with ovarian leiomyoma.

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