Primary ovarian leiomyoma

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ABSTRACT

Ovarian leiomyoma is a rare and incidentally detected neoplasm, clinically indistinguishable from subserous leiomyomas and ovarian fibromas, until histopathological confirmation. We present a case of leiomyoma arising primarily from the ovary in a 35 year old woman.


Case Report. A 35-year-old unmarried woman was referred to our hospital from a private clinic, with a lower abdominal mass noticed since 6 months. There were no menstrual, urinary or bowel complaints. Abdominal examination revealed a firm, mobile mass with smooth surface up to the level of umbilicus. The patient refused a vaginal examination. On abdominal ultrasonography, a 10 x 8 cm mixed echoic mass was seen in close proximity to the fundus of uterus. The right ovary could not be separately identified. The mass was solid, with lobulated but smooth surface. Left ovary and both tubes were normal. There was a pedunculated fundal fibroid of 4x3 cm and multiple seedling fibroids were present in the body of uterus. Ovarian fibroma was suspected; right oophorectomy and myomectomy were performed. It was not possible to preserve even a part of the affected ovary as no healthy ovarian tissue was identified. The postoperative period was uneventful.

Pathological examination. Macroscopic examination showed a large nodular mass with smooth outer surface measuring 11x9x9 cms. The cut surface appeared whorled as in a typical leiomyoma and showed a circumscribed area of necrosis. Compressed ovarian tissue was identified at the periphery of the mass (Figure 1). Microscopic examination showed fascicles of spindle shaped cells resembling smooth muscle cells interspersed with collagen and blood vessels. The appearance was indistinguishable from that of an uterine leiomyoma. An area of confluent hyaline necrosis was present, well-demarcated by surrounding fibrosis. Ovarian tissue was seen at the periphery with only hilar connective tissue separating it from the neoplasm. (Figure 2).
**Discussion.** Primary ovarian leiomyomas have been reported in women aged between 20 and 65 years, often in an age group similar to uterine leiomyomas, which they are frequently associated. Most cases are asymptomatic and are found on routine examination, at surgery, or at autopsy as the tumors are usually too small to produce symptoms. Large tumors with pressure symptoms and pelvic pain have also been documented in the literature. The largest tumor, measuring 36x37x11cms and weighing 6855gms, was reported in a 72-year-old nulliparous woman who presented with ascites and polymyositis.

Leiomyomas of the ovary are macroscopically and microscopically indistinguishable from uterine leiomyomas. Degenerative changes such as hyalinization, calcification, and cyst formation may be seen in ovarian leiomyomas as well. Primary leiomyosarcoma of the ovary differs from its benign counterpart in being hypercellular and in showing increased mitotic activity (>10 mitotic figures per 10 high power fields).

Primary ovarian leiomyomas must be distinguished from leiomyomatosis peritonealis disseminata secondarily involving the surface of the ovary and tumors arising in the broad ligament or parasitic uterine leiomyomas. Because uterine leiomyomas are common, they often coexist with primary ovarian leiomyomas, as in our case. Histogenesis of ovarian leiomyomas is still controversial. The consensus of most recent reports is that these neoplasms originate from the walls of blood vessels in the ovarian hilus or from the smooth muscle fibres near the attachment of ovarian ligament. Ultrasound and computerized tomography features reported are of non-specific solid masses without demonstration of the origin.

Magnetic resonance imaging can distinguish between uterine and ovarian leiomyoma by demonstrating the supplying vessels arising directly from the myometrium. Differentiation from ovarian fibroma and thecoma requires histopathological examination. In the present case, only ultrasonography was performed. Although ovarian leiomyoma is rare, it should be included in the differential diagnosis of subserosal uterine leiomyoma and ovarian fibroma.

**References**


**Figure 1** - Well-circumscribed ovarian mass with whorled cut surface. Normal ovarian tissue present at the periphery of smaller piece.

**Figure 2** - Photomicrograph shows neoplasm composed of smooth muscle bundles with ovarian hilar stroma. Hematoxylin and eosin x 200.