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# Parasitic leiomyoma peritoneum in a patient without prior surgery of genital organs – a case report

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SUMMARY

Leiomyoma is the most common benign tumor of the uterus. Diagnosis is usually simple and does not cause problems in clinical practice. However, parasitic leiomyoma of the pelvis minor is rare and can be difficult to diagnose. The aim of the article is to present the case of parasitic leiomyoma, diagnosed in a patient without prior surgery of genital organs. Proper preoperative diagnosis – medical history, physical examination, transvaginal and transabdominal ultrasonography as well as laboratory tests, allowed us to make the correct initial diagnosis, which was confirmed by laparoscopy and postoperative histopathological examination of the surgical specimen.

**Key words:** parasitic leiomyoma; laparoscopy; myomectomy

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## INTRODUCTION

Leiomyoma (also called uterine fibroid) is the most common benign tumor of the uterus and originates from the smooth muscle tissue. Due to their location, such tumors can be divided into: intramural, subserous and submucosal [1]. Subserous leiomyoma, if pedunculated, can move within the abdominal cavity as far as the pedicle allows. These are so-called wandering or migrating leiomyomas. Occasionally, such tumors can take over the blood supply of organs to which they adhere (broad ligament of the uterus, uterine peritoneum, greater omentum) and lose their primary uterine vasculature. Such tumors are referred to as parasitic leiomyomas [1,2]. Pedunculated leiomyomas are not uncommon, but parasitic tumors are considered rare even in the global literature. The other hypothesis concerning the origin of parasitic leiomyomas is that they develop after laparoscopic surgeries involving the uterus during which a morcellator is used. According to this theory, leiomyoma cells are left behind within the pelvis minor and then form new tumors by adhesion and neoangiogenesis [3]. Recent development of laparoscopy in surgical gynecology makes this problem more and more common.

The paper presents a rare case of parasitic leiomyoma in a patient with no prior history of any surgical intervention within the abdominal cavity.

## CASE REPORT

A 42-year-old patient was scheduled to be hospitalized in the Ward of Gynecology and Obstetrics of the Silesian Institute of Mother and Infant due to a tumor of the left ovary and uterine fibroids. The patient reported stabbing abdominal pain on the left side that had per-

sisted for over a year. The patient had regular menstrual cycles lasting 28 days. Menstruations were painless, of moderate intensity, lasting for 5 days. She had had two pregnancies, both concluded with a natural childbirth at term. The patient denied having chronic diseases, history of surgeries or family history of cancers, allergies and using stimulants.

A pelvic examination conducted at admission revealed: clear cylindrical vaginal portion, clear vaginal walls and the anteflexed, freely movable and painless uterine body. The right adnexa were palpable, with no pathological lesions. The left adnexa were slightly tender to palpation. Pap smear: PAP II. A transvaginal US showed: anteflexed uterus with uneven contours and abnormal shape, with the size of 57x42x58 mm and an anterior intramural leiomyoma-like structure with a diameter of 24 mm. The endometrium was linear with the thickness of 4 mm. Within the left adnexa, there was a heterogeneous lesion with the size of 59x13x32 mm. The right adnexa presented no pathological lesions. An abdominal examination showed a lesion of leiomyoma-like echogenicity with the size of 6x5 cm above the left adnexal field that did not communicate with the uterus. The results of laboratory tests (complete blood count, biochemistry, coagulation panel) revealed no irregularities. The CA-125 level was 15.7 U/ml.

Based on the diagnostic process conducted, an initial diagnosis of a left ovarian cyst, uterine leiomyomas and leiomyoma peritoneum was made. The patient was deemed eligible for and consented to a laparoscopic procedure to remove the left adnexa and uterine leiomyoma.

During laparoscopy, the slightly enlarged uterus was visualized. The right adnexa and left fallopian tube were clear of pathological lesions. The left ovary was cystic, of smooth surface with the diameter of approximately 6 cm. In the region of the left iliac vessels, retroperitoneally, there was a solid, hard tumor with the diameter of 6 cm that bulged into the abdominal cavity. The macroscopic appearance of the tumor suggested a leiomyoma but it did not communicate with the uterus. The infundibulopelvic ligament and left mesovarium were coagulated, and the ovary was excised together with its cyst and left fallopian tube. The tumor was dissected from the surrounding tissues and extracted from the endobag. The leiomyoma was divided with a morcellator. The excised left andexa were placed in the endobag and extracted from the uterus. The material was sent for a histopathological evaluation. The further hospitalization was uneventful. The patient was discharged in an overall good condition on the second day after the surgery.

The pathological evaluation confirmed the suspicions:

1) a 4 cm specimen of the left ovary – cystis corporis lutei;
2) fallopian tube – salphingitis chronica, cystes paraoviductales parvae;
3) 5 cm bands of leiomyoma (a dozen or so fragments) – leiomyoma.

## DISCUSSION

The term *parasitic leiomyoma* was first used by Kelly and Cullen in 1909. Parasitic leiomyomas are divided into primary, which develop by elongation and subsequent rupture of the peduncle of a subserous leiomyoma, and secondary (iatrogenic), which develop from tissue residue left behind after using a morcellator during laparoscopy [3–6]. Of twelve patients with parasitic leiomyoma treated by Kho and Nazhat in 2009, 83% had previously undergone surgeries within the abdominal cavity, and 67% had a history of conservative myomectomy [3]. The patient reported above had no prior history of any surgical intervention. That is why the pathogenesis of leiomyoma could be explained by the hypothesis on pedunculated lesions that loose their primary blood supply.

The diagnosis of uterine fibroids, which are the most common benign tumors of the uterus, is usually simple due to broadly available ultrasonogarphy [7]. Pedunculated or parasitic leiomyomas can pose diagnostic difficulties, and they can be erroneously diagnosed as adnexal tumors. The diagnostic process seems to be very challenging due to clinical and ultrasonographic similarity to ovarian tumors, particularly fibroids, and due to their occasional occurrence [8]. A feature that can prove helpful in the differential diagnosis is a positive history of prior surgery within the abdomen and pelvis minor, particularly with the use of a morcellator [8,9]. Ultrasound images should be interpreted in terms of features typical of leiomyomas. They are usually well-delineated from adjacent tissues and may contain other structures, such as calcifications or degenerative lesions containing cystic hypoechoic necrotic areas [10]. The vascularization of parasitic leiomyomas from omental vessels or iliac artery branches seems to be poorer than from the uterine arteries. That is why areas of necrosis within tumors are

seen on ultrasound more often. The usage of Ca-125 seems to be justified in the diagnosis of adnexal tumors. However, its levels are not observed to increase either in uterine fibroids or in most non-malignant ovarian tumors [7]. In the case reported above, an ultrasound image was consistent with an extraperitoneal leiomyoma located above the iliac vessels with no communication with the uterus as well as a well-visible left ovary. The level of CA-125 was normal.

The final diagnosis of parasitic leiomyoma can be made only based on surgery and subsequent histological analysis [10–11]. In the case presented above, the initial diagnosis was made on the basis of the clinical picture and US findings. It was confirmed intraoperatively during laparoscopy.

## CONCLUSIONS

Parasitic leiomyomas are rare. Thorough differential diagnosis with adnexal tumors can be useful particularly in women with the history of laparoscopic procedures with a morcellator.

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