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Taiwanese Journal of Obstetrics & Gynecology 51 (2012) 115–116

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Research Letter

Parasitic peritoneal leiomyomatosis mimicking intra-abdominal abscess with hematoma☆

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Accepted 25 April 2011

A 43-year-old sexually-naive female, a case of primary transsexualism, female to male, was treated with stage I sexual reassignment surgery. This included vaginal hysterectomy, bilateral salpingo-oophorectomy, vaginectomy, neourethra prelamination, and bilateral reduction mammoplasty at the tertiary medical center. Preoperative evaluation was unremarkable, however, no image study for the uterus (e.g., ultrasound) was done. A very large uterus was extracted and removed blindly through the vagina. Final pathology showed an $18 \times 14 \times 9$ cm^3 uterus containing the $10 \times 8 \times 7$ cm^3 cellular leiomyoma. Postoperative recovery was uneventful.

Fourteen days after the operation, the patient suffered from intermittent chills accompanied with lower abdominal pain and a spiking fever up to 39.5°C. Physical examination revealed significant tenderness in the right lower quadrant area, but with an absence of peritoneal signs or rebounding pain. Laboratory data revealed increased white cell counts (WBC = 13800/mm^3) and an elevated serum level of C reactive protein (7.38 mg/dL), suggesting the patient had an inflammatory process. Computerized tomography (CT) revealed an intra-abdominal mass favoring a diagnosis of hematoma, superimposed with abscess formation (Fig. 1). Antibiotics were initiated and CT-guided biopsy and drainage was attempted. The drainage failed, and biopsy showed only scanty fibrous tissue.

Although the patient's symptoms subsided dramatically after admission, abdominal distension progressed after hospitalization. A re-opening of the obliteration of the vagina for drainage through the transperineal area was performed on the 4th day of hospitalization. A firm, large tumor mass completely occupied the cul-de-sac, with no evidence of fluid or pus accumulation noted during the operation. Due to the finding of an intra-abdominal solid mass, conversion to exploratory laparotomy followed. A $15 \times 9 \times 10$ cm^3 tumor from the sigmoid colon was found (Fig. 2). The connection between the tumor and colon was thin and easily dissected; therefore, complete tumor resection was performed smoothly. Pathology showed a cellular leiomyoma with hyalinization and degenerative changes, and adenomyoma, composed of neoplastic smooth muscle bundles and endometrial tissue in the mesocolon. Immunohistochemical staining of estrogen receptors (ER) and progesterone receptors (PR) from the original myoma tissue and the subsequent myoma tissue was carried out. The original myoma was positive for both ER and PR, but the parasitic myoma was positive for PR alone.

The occurrence of leiomyomata after hysterectomy is extremely rare, although it has been reported [1–3]. Disseminated peritoneal leiomyomatosis is a rare condition characterized by the presence of multiple subperitoneal nodules of smooth muscle tumors and was first described by Willson and Peale in 1952 [4]. Originally, it was believed to be a smooth muscle metaplasia of the subperitoneal mesenchyme [3]. Recently, there have been a limited number of case reports on the development of multiple parasitic myomas following laparoscopic myomectomy [5,6]. These myomas occur after a surgical procedure for myomectomy of the uterus, and are located outside of the uterus, suggesting these parasitic myomas could be explained by fragments of myometrial tissue being left behind in the peritoneal cavity during the first surgical procedure [3]. This is why more cases are reported after myomectomy, especially laparoscopy and morcellation [5–7]. In this case, the parasitic myomas could be explained by fragments of myometrial tissue being left behind in the

☆ This work was supported in part by grants from Taipei Veterans General Hospital (V99C1-085), and the National Science Council (NSC 99-2314-B-010-009-MY3), Taiwan.

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doi:10.1016/j.tjog.2012.01.024

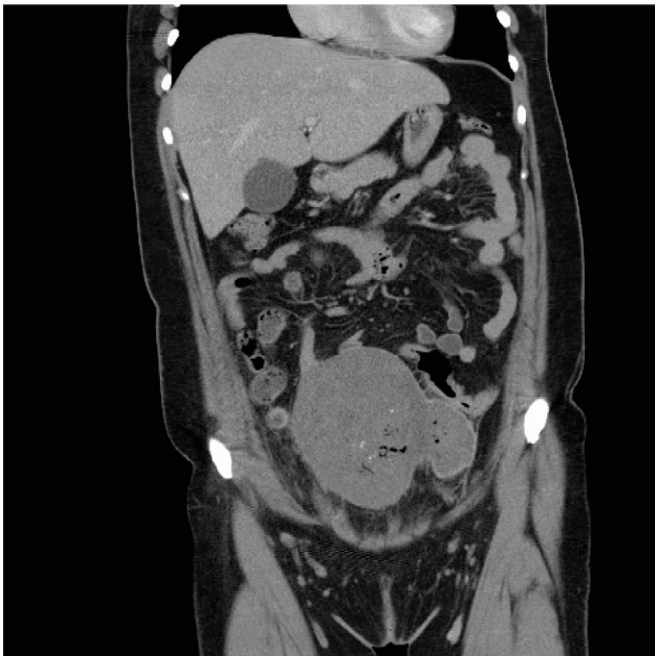

Fig. 1. Abdominal computerized tomography showing a relatively high-density, slightly heterogenous lesion, about 11–13 cm, in the pelvis. Streaks of gas shadows are also noticed inside the lesion, compatible with the clinical diagnosis of pelvic hematoma superimposed with infection.

peritoneal cavity during total hysterectomy through the vaginal approach, since this patient did not receive an adequate preoperative evaluation (e.g., ultrasound) and postoperative consideration. Furthermore, the location of these myomas (obliteration of the cul-de-sac and implanted on the sigmoid colon) was also suggestive of seeding of myometrial tissues after vaginal total hysterectomy. A progressive enlargement of the parasitic mass after the operation and histological features with massive hyalinization and extensive degeneration, were supported by an acute ischemic change [8,9] and inadequate blood supply from the mesocolon. Finally, acute depletion of estrogen after the operation [10], and continuous testosterone use, further contributed to these histochemical changes.

This is the first documented case of iatrogenic parasitic peritoneal leiomyomatosis mimicking an intra-abdominal abscess clinically, occurring in a transsexual woman after stage I sexual reassignment surgery. A thorough preoperative evaluation, especially an imaging study such as ultrasound,

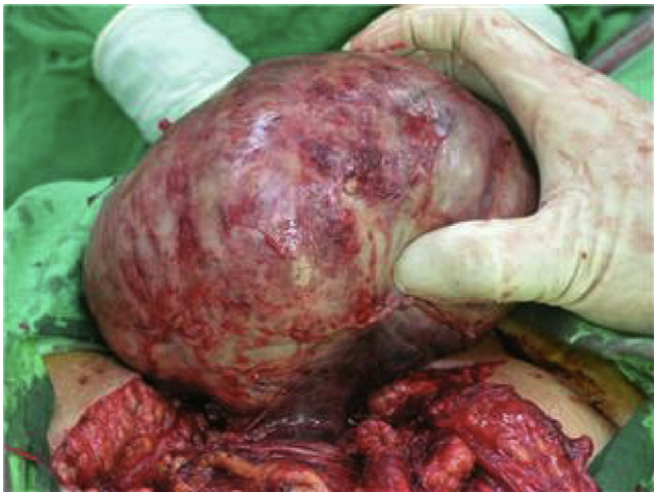

Fig. 2. A solid mass tightly attached onto the sigmoid colon.

and meticulous and complete surgical removal are mandatory to prevent its occurrence.

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