



Parasitic leiomyoma in the anterior abdominal wall: a case report

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Background: In the female reproductive system, leiomyoma is the most common benign tumor, usually occurring in the uterus, but it may also be found in other places such as the ovary, the broad ligament, and in rare cases in the abdominal wall. The formation of the abdominal wall leiomyoma can be caused by the surgical removal of the uterine fibroids followed by the implantation of myometrium tissue, especially after laparoscopic myomectomy.

Case Description: This case report described a patient who had performed a laparoscopic myomectomy 8 years ago. The patient touched the subcutaneous mass at the abdominal wall of the right lower abdominal laparoscopic puncture hole after that with a diameter of 1 cm and it gradually increased. The excision of the mass was underwent through abdominal wall incision. The abdominal mass was leiomyoma in pathologic diagnosis.

Conclusions: The formation of myoma in the abdominal wall is rare, but considering that leiomyoma can form anywhere in the body with smooth muscles, including the anterior abdominal wall. This diagnosis should be used as a differential diagnosis of abdominal masses. It is important for avoiding this to completely remove the leiomyoma with appropriate extraction way in previous surgery and carefully examine the abdomen.

Keywords: Leiomyoma; abdominal wall; case report

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Introduction

In the female reproductive system, leiomyoma is the most common benign tumor, with the incidence of 20–30% in women in the reproductive age (1). The most common site for this tumor is uterus, but it may also be found in other places, such as the ovary, the broad ligament, and in rare cases in the abdominal wall (2). To completely remove the mass is the best treatment of abdominal wall myoma in order to reduce the recurrence (3). It has been believed

that implantation of myomatous tissues in the previous gynaecological surgery lead to uterine mass to adhere to adjacent organs, which then develops its own blood supply and gradually loses connection with the original organ, thus becoming a ‘parasite’ in the new location (4). Herein, a woman with parasitic leiomyoma in the anterior abdominal wall was reported in our study after laparoscopic myomectomy. We present this case in accordance with the CARE reporting checklist (available at <https://gpm.amegroups.com/article/view/10.21037/gpm-23-28/rc>).

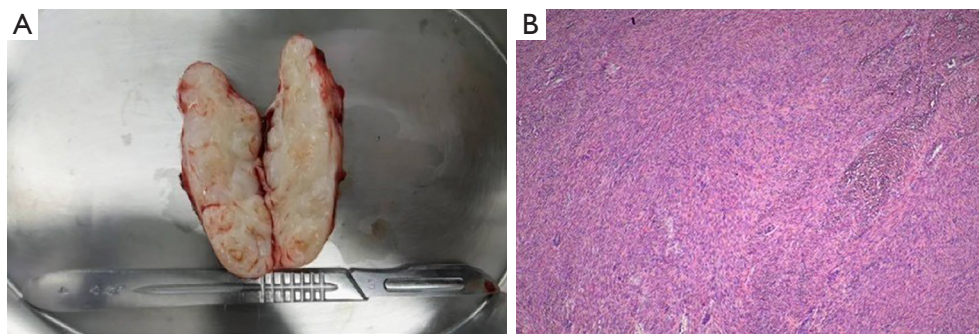


Figure 3 Pathological photo of the tumor. (A) The tumor divided into two halves showing a solid trabeculated surface with spindle formation. (B) Microscopic examination revealed spindle-shaped tumor cells arranged in a braided pattern (hematoxylin and eosin staining, $\times 200$).

leiomyomas in 1939 and there are no more than 200 cases have been recorded with a median diagnostic interval of 48 months (6,7). Moon *et al.* reported there were three years in the formation of abdominal wall myoma after laparoscopic myomectomy (2). In our case, the woman performed a laparoscopic myomectomy 8 years ago and then found a myoma in the abdominal wall. Moreover, this myoma also occurs after transabdominal hysterectomy or without history of myomectomy (8-12). These cases indicate that this type of myoma should be considered in the differential diagnosis of patients with abdominal or pelvic solid tumors even if there is no history of laparoscopic surgery using a power morcellator.

In our previous surgery, a myoma with a diameter of approximately 1cm between the uterine anterior wall muscles and protruding beneath the serosa, was completely removed and directly taken out from the abdominal laparoscopic puncture hole without morcellation. We carefully examine the abdomen without residue after surgery. With the development of laparoscopy technology, the extraction of the specimens is more and more important. It is popular to previously use electric morcellators for extraction, however, uterine sarcoma might develop as a cause of the spread of tumor cells during morcellation when removal of the fibroids. Lieng *et al.* reported the incidence of unintended morcellation of a uterine sarcoma was very low (0.02%) (13). However, Perkins *et al.* thought that this may be more common in 1/350, although published rates range widely from 1 in 352 to 1 in 7,400 (14). Therefore, in 2014, the U.S. Food and Drug Administration (FDA) issued an advisory recommending that all information should be shared with patients when use of electric morcellators in the surgery and encouraged the gynecologists to develop new techniques (15). As a consequence, transvaginal retrieval

after laparoscopic myomectomy was developed and was thought to be a valuable alternative to intracorporeal morcellation (16,17). What's more, in-bag abdominal manual morcellation have been described for laparoscopic surgery, during which each excised myoma was placed into a sample retrieval bag, and manually morcellated with a knife or scissors via small abdominal wall incisions (17). Several studies considered that in-bag (contained) morcellation was a safe and unexpensive way to decrease the risk of dissemination, even with large specimens (18,19). It is thought that increased incisional length shortens surgical times dramatically (20,21). As the incision at the belly button can reach 2–3 cm after being opened in single-port laparoscope, the specimen is easier to take out which makes it increasingly popular in myomectomy. Moreover, adhesion and their adverse effects in later surgery can be reduced by applying antiadhesive agents during previous gynecologic surgery (22). It should be emphasized that there is one type of myomas close to the uterine cavity, the treatment is hysteroscopic myomectomy rather than laparoscopy (23). Nevertheless, more evidence is needed to assess the safety and effectiveness of hysteroscopic myomectomy and gynecologists should be trained before performing hysteroscopy in order to improve the safety (24). However, the leiomyoma was small and was not morcellated in our study. The reason for leiomyoma in the anterior abdominal wall is unexplained and it might be the parasitic.

Several theories have been proposed to explain the formation of myoma in the abdominal wall with classifying as primary and parasitic. Parasitic leiomyomas may be detected asymptotically or unexpectedly during clinical or USG examination. The symptoms depend on its location. Abdominal pain and pelvic pressure are the most common symptoms. Other symptoms include an increase in urinary

frequency, which can lead to different degrees of urinary outflow obstruction or secondary hydronephrosis as a result of compression of the urethra, bladder neck or ureter (25). In our case, the patient's abdominal wall mass was accompanied by menstrual pain, therefore, we misdiagnosed endometriosis in abdominal wall. Somatic soft tissue myoma are usually accompanied by large local masses. Macroscopically, these myomas are described as the shape of masses with clear borders that are surrounded by a false capsule (26). The abdominal wall lesions and desmoid tumors are more hyperechoic than leiomyoma. On the other hand, abdominal wall myoma is lentiform, while endometriosis lesions and desmoid tumors are round or oval masses (3). Before operation, we cannot distinguish the myoma with endometriosis according to the ultrasound and physical examination. The gross specimen and pathology help the diagnosis.

There are several limitations in our study. First, due to rarity of similar cases, only one case was included instead of case series. Secondly, the reason for leiomyoma in the anterior abdominal wall is unexplained because of the little samples and more data would be needed for further study. Despite these limitations, our study presents important strengths. To our best knowledge, our study provides further evidences of a rare complication after laparoscopic myomectomy. Every effort should be made to completely remove the leiomyoma and avoid morcellation to prevent implantation and recurrence.

Conclusions

The formation of myoma in the abdominal wall is rare, but considering that leiomyoma can form anywhere in the body with smooth muscles, such as the anterior abdominal wall, which should be used as a differential diagnosis of abdominal masses. To completely remove the mass is the best treatment of abdominal wall myoma in order to reduce the recurrence.

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Footnote

Reporting Checklist: The authors have completed the CARE reporting checklist. Available at <https://gpm.amegroups.com/article/view/10.21037/gpm-23-28/prf>

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Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at <https://gpm.amegroups.com/article/view/10.21037/gpm-23-28/coif>). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was approved by the institutional review board of West China Second Hospital of Sichuan University. All procedures performed in this study were in accordance with the Helsinki Declaration (as revised in 2013). Written informed consent was obtained from the patient for the publication of this case report and accompanying images. A copy of the written consent is available for review by the editorial office of this journal.

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