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Case Report

Iatrogenic parasitic myoma: A case report and review of the literature

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ABSTRACT

Objective: To investigate the possible causes of iatrogenic parasitic myoma and methods to prevent its occurrence.
Case report: A 27-year-old nulliparous unmarried patient underwent laparoscopic myomectomy with morcellation for a submucosal myoma at the National Taiwan University Hospital (Taipei, Taiwan). Seven years later, an asymptomatic pelvic tumor was noted during a regular annual follow up. Two pelvic tumors were detected and excised by laparoscopic surgery. The masses were confirmed by histopathology to be cellular leiomyomas.
Conclusion: In the past 7 years, the incidence of iatrogenic parasitic myomas has increased because of the increased use of minimally invasive surgery using a morcellator. Forty-one cases of iatrogenic parasitic myoma were reviewed from 23 published studies. Parasitic myoma frequently occurs in the dependent part of the abdominal cavity, which suggests seeding of myometrial tissues during morcellation. *In situ* morcellation and vigorous irrigation with concomitant changes in position may decrease the incidence of retained myoma tissue in the abdomen during surgery.

Introduction

Uterine myoma is a common gynecological disorder occurring in 20–50% of women of late reproductive age [1]. Surgical interventions are recommended for symptomatic patients. Advances in surgical equipment and techniques have recently facilitated minimally invasive endoscopic surgery [2–4]. In these minimally invasive procedures, the removal of different sizes of myoma through small wounds requires fragmenting the myomas in the abdominal cavity [4–6]. However, this morcellation process may disseminate viable myoma particles in the abdominal cavity. In rare instances, minute myoma particles may survive and become implanted into tissue. In the past 7 years, the incidence of iatrogenic parasitic myomas has increased because of the increased use of minimally invasive surgery. Iatrogenic parasitic myoma nevertheless remains a rare late complication with an incidence of <1%.

Case report

In 2003, a 27-year-old nulliparous unmarried patient presented to the National Taiwan University Hospital (Taipei, Taiwan) with hypermenorrhea and anemia. Preoperative sonography showed a 5-cm submucosal myoma. The patient was unsuitable for hysteroscopic myomectomy because only 30% of the myoma protruded into the uterine cavity. The myoma was subsequently removed by laparoscopic myomectomy with a morcellator (GYNECARE X TRACT Tissue Morcellator; Ethicon, Inc., Somerville, NJ, USA). There was no evidence of disseminated intraperitoneal leiomyomatosis or myomas in any extra-uterine location at the time of the surgery (performed on October 21, 2003; Fig. 1). The total weight of the removed myoma was 50 g, and no visible remnants were left in the abdominal cavity.

The patient underwent regular annual follow up at the outpatient clinic. Seven years later in 2011, a transabdominal ultrasound revealed a 6-cm pelvic mass that was suspected to be a uterine myoma (Fig. 2A). A computed tomography scan demonstrated a homogeneous enhancing mass, which was suspected to be an exophytic uterine myoma with a stalk (Fig. 2B).

On January 18, 2011, a repeat laparoscopic surgery revealed two masses (Fig. 3A). A 6-cm mass arose from the small intestine serosa

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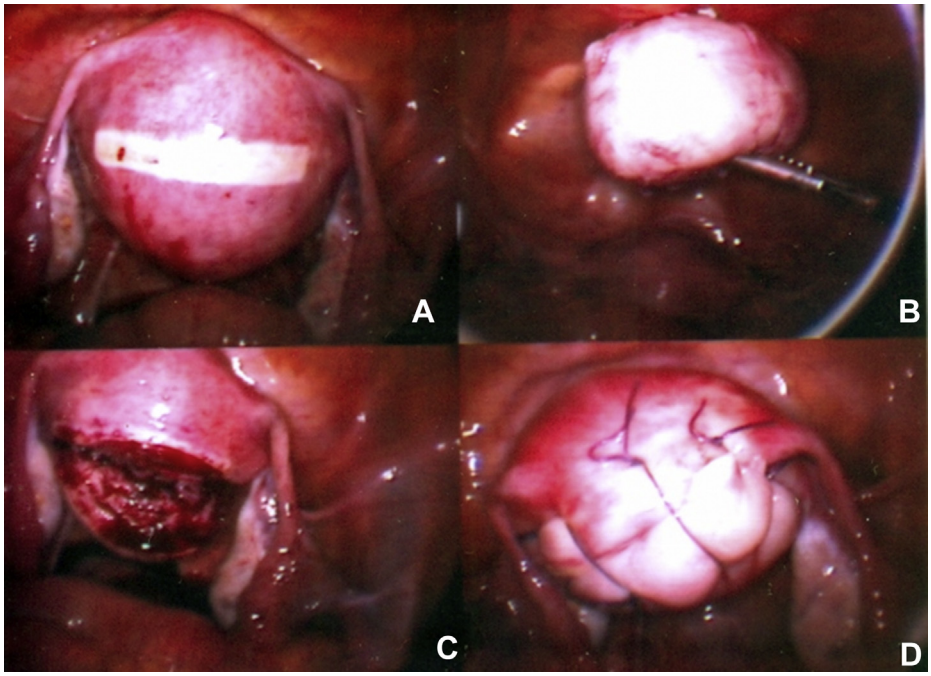

Fig. 1. Laparoscopic myomectomy of a submucosal myoma. (A) A horizontal incision is created parallel to the round ligament. (B) The myoma is enucleated using a myoma screw. (C) The myometrial defect after myomectomy. (D) After the myomectomy, the wound is closed by two-layer interrupted sutures.

with a broad base (Fig. 3B), and a 2-cm mass was on the left tube (Fig. 3C). Both masses were removed with subsequent morcellation. Histopathology confirmed the masses to be cellular leiomyomas. The total weight of the removed myomas was 146 g. The patient continued to receive annual follow up after the second surgery.

Discussion

Parasitic myoma is a rare type of pedunculated subserosal myoma that is partially or completely separated from the uterus and receives alternative blood supply from another source such as the omentum and mesenteric vessels [7]. The prevalence of minimally invasive surgery has led to a new type of parasitic myoma: the iatrogenic parasitic myoma [8–9]. In some papers, this kind of myoma is called disseminated peritoneal leiomyomatosis (DPL) [10–12]. This suggests a subset of DPL that is secondary to transcoelomic dissemination of a primary uterine leiomyoma rather than a *de novo* peritoneal metaplasia [13].

Forty-one cases of iatrogenic parasitic myoma with various diagnostic names were reviewed after the operation in 23 published studies (Table 1). Eighteen of the 23 published studies were single case reports, and 19 studies were published within the past 7 years (i.e., since 2006). Based on all of these patients, the symptoms of iatrogenic parasitic myoma do not appear to be specific. The most common symptoms are pain, mass sensation, and deep dyspareunia. In the present patient, the tumor was asymptomatic and

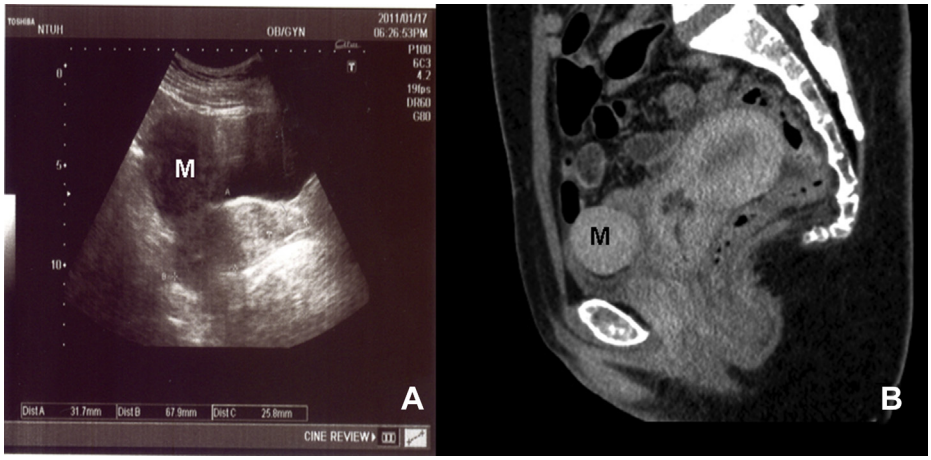

Fig. 2. (A) The preoperative transabdominal sonography image shows one pelvic mass, which is suspected to be a uterine myoma. (B) Computed tomography shows a homogeneous enhanced mass that is suspected to be an exophytic uterine myoma with a stalk. M = myoma.