

Intraperitoneal cancer spread after laparoscopic cystectomy for mature teratoma with malignant transformation

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Summary

Laparoscopic surgery for ovarian dermoid cysts has been accepted. However, its potential limitations should be considered, including technique difficulty, intraoperative tumor spillage and malignant transformation. We report a case of ovarian dermoid cysts with malignant transformation that was initially treated using laparoscopic cystectomy, but was complicated by intraperitoneal tumor dissemination.

Key words: Dermoid cyst; Laparoscopic surgery; Malignant transformation.

Introduction

Ovarian dermoid cysts are the most common ovarian tumor in women of reproductive age and they are effectively treated using exploratory laparotomy and cystectomy. Recently, laparoscopic surgery for dermoid cysts has been accepted as an alternative method based on its effectiveness, safety, cosmetics and economics [1, 2]. However, dermoid cysts always constitute a difficult situation for surgeons due to the potential risk of intraperitoneal rupture causing spillage of the cyst contents during laparoscopic surgery [3, 4]. In addition, malignant transformation, although rare, could be found [5].

Case Report

We report a case of 32-year-old patient who initially received laparoscopic cystectomy for her dermoid cyst at the primary clinic but was finally complicated with intraperitoneal carcinomatosis. According to the notes of the referred chart, a 7 cm right ovarian dermoid cyst (based on the diagnosis of preoperative ultrasound) with an adhesion to the cul-de-sac was found during operation. However, no other abnormal findings could be identified within the abdominal cavity. Laparoscopic cystectomy was performed smoothly, but tumor rupture occurred during dissection. Yellowish oil, fatty tissue and hair from the rupture site were found and spillage was removed initially. Then the tumor was completely excised and the specimen was put into an endobag and removed via the umbilical port wound. A large amount of normal saline was used to clean the abdominal cavity and the patient was discharged the next day. One week later, pathology reported a dermoid cyst with squamous cell carcinoma transformation. The patient was immediately referred to our hospital and restaging surgery was performed after careful evaluation. During exploratory laparotomy, carcinoma spreading through the whole pelvic cavity and part of the omentum was found. One large tumor nodule, about 4

cm, invaded the muscular layer of the rectum and multiple tumor seedings were located on the cul-de-sac and omentum. The patient was treated with optimal debulking surgery (no grossly residual tumor could be identified after surgery) including hysterectomy, bilateral salpingo-oophorectomy, appendectomy, infracolic omentectomy, multiple biopsies, lower rectal resection, and end-to-end anastomosis. Pathology showed multiple metastases of squamous cell carcinoma on the bladder base, uterine surface, omentum, rectal serosa, rectal muscle, and stump of the right ovary. Cytology was positive for malignant cells. Other specimens were negative. Surgical staging was IIIC. Immediately postoperative adjuvant multi-agent chemotherapy was administered but the patient died 19 months after her initial surgery and diagnosis.

Although the potential risk of malignant transformation of dermoid cysts has been reported as 1% to 3% of cysts [1], laparoscopic surgery for dermoid cysts has been well accepted as an alternative approach [1-3]. In fact, only one author has addressed coincidental laparoscopic surgery for a dermoid cyst possibly associated with malignancy transformation [5]. In that case tumor rupture occurred before laparoscopy, and in addition, no malignant transformation could be identified in the initial excision tumor. By contrast, this case was the first well-documented case of disseminated carcinomatosis after laparoscopic surgery for dermoid cysts with malignant transformation, although many other gynecological cancers have been reported [6-16]. In addition, this report was done with the purpose of learning something from this case. First, we should emphasize the need for careful use of laparoscopic surgery to manage dermoid cysts; not only is the technique difficult but it also has a potential risk of spillage with resultant chemical peritonitis and cancer spread. Second, dermoid cysts associated with a pelvic adhesion or rupture before operation should be regarded as a potential malignancy and frozen biopsy is of paramount importance. Urgent exploratory laparotomy should not be delayed if needed [16, 17]. Third, pneumoperitoneum or laparoscopic surgery itself might increase cancer spread [11, 19], although in an animal model, a recent study is contradictory [20]. Fourth, excessive manipulation or malpractice would directly contribute to tumor dissemination during surgery. Finally, although laparoscopic surgery is beneficial in various

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kinds of gynecology, its application is not appropriate for all patients or all surgeons, especially physicians who have not received proper training. Careful evaluation of patients and well-trained surgeons would decrease the occurrence of adverse events of laparoscopic surgery for gynecologic tumors.

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