

Research Letter

Peritoneal papillary serous cystadenocarcinoma at a previous laparoscopic trocar site

Le-Ming Wang^b, Cherng-Jye Jeng^{a,b,c,*}, Sey-En Lin^d, Jenta Shen^e

^a Department of Obstetrics and Gynecology, BenQ Medical Center, Nanjing Medical University, Nanjing, Jiangsu Province, China

^b Department of Obstetrics and Gynecology, Taipei Medical University Hospital, Taiwan

^c Department of Obstetrics and Gynecology, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan

^d Department of Pathology, Taipei Medical University Hospital, Taiwan

^e Department of Obstetrics and Gynecology, California Pacific Medical Center, San Francisco, CA, USA

Accepted 7 March 2012

The peritoneum is a serous lining of mesothelial cells with rich vascular and lymphatic capillary networks that covers the abdominal and pelvic walls and organs. Peritoneal neoplasia can originate *de novo* from peritoneal tissues (primary) or invade or metastasize into the peritoneum from adjacent or remote organs (secondary).

Many primary cancers originate from the peritoneum, some of which have been implicated in many cases of carcinomas of unknown primary origin. Ovarian cancer arising in women several years after a bilateral oophorectomy is believed to be one of these primary peritoneal cancers. Other described primary peritoneal cancers and tumors include malignant mesothelioma, benign papillary mesothelioma, desmoplastic small round-cell tumor, peritoneal angiosarcoma, leiomyomatosis peritonealis disseminata, and peritoneal hemangiomatosis.

The patient in our case report had a past history of laparoscopic cystectomy for a left ovarian chocolate cyst. Three years after the operation, a mass in her left lower abdominal quadrant was noted under the scar of the trocar site of the previous laparoscopic procedure.

An unmarried 38-year-old G0P0 woman had undergone laparoscopic cystectomy 3 years previously for a left ovarian chocolate cyst, by retaining the cyst in an endobag before pulling it out from the trocar site. She noted a palpable mass with tenderness in her left lower abdominal quadrant beginning 4 months previously. Ultrasonography showed a solid mass (5.0 cm × 4.4 cm × 4.7 cm) in her left pelvic wall. A clinical examination showed that the location of the peritoneal mass was just at the site of a trocar port of the previous laparoscopic operation.

An abdominal tumor over the peritoneum that involved the muscle layer was found on an exploratory laparotomy (Fig. 1). There was no other gross lesion in the whole pelvic cavity. The anterior abdominal mass was excised, and a frozen section revealed it to be a papillary serous cystadenocarcinoma (Fig. 2). Therefore, pelvic and para-aortic lymph node dissection, infracolic omentectomy, excision of the endometriotic foci, right and left ovarian biopsies, and peritoneal washing were performed.

The final diagnosis was grade III, stage IV peritoneal papillary serous adenocarcinoma. The histopathological examination showed bilateral ovarian endometriosis with no evidence of lymph node metastasis. The patient was placed on chemotherapy with taxol and carboplatin for six cycles, and she is alive with no evidence of disease 2 years later, at the time of this report.

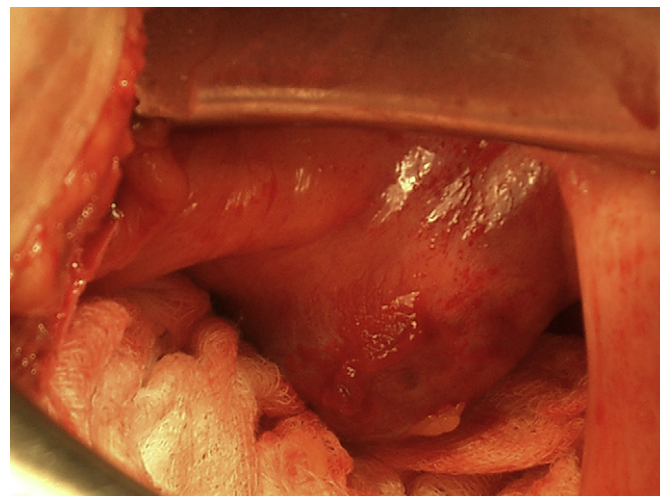


Fig. 1. Abdominal tumor between the peritoneal and muscle layer during laparotomy.

* Corresponding author. Department of Obstetrics and Gynecology, BenQ Medical Center, 71 Hexi Ave, Jianye District, Nanjing, Jiangsu 210019, China.
E-mail address: jengcj@gmail.com (C.-J. Jeng).

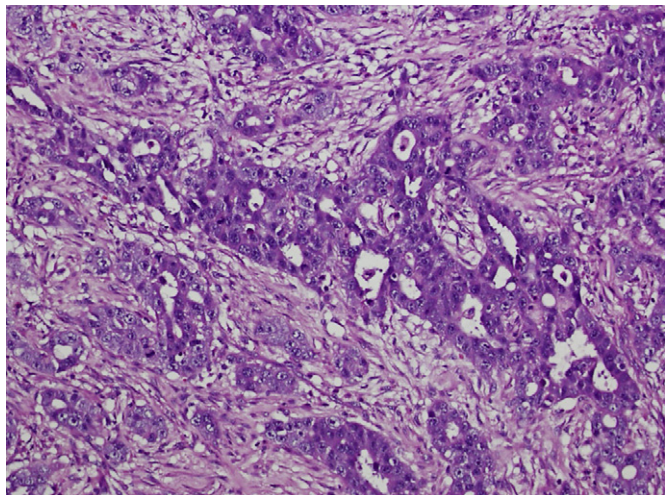


Fig. 2. Papillary serous cystadenocarcinoma demonstrated high-grade tumor cells arranged in nests and clusters infiltrating the abdominal wall.

Peritoneal papillary serous cystadenocarcinoma may have grown from two origins: a primary origin, or derived from a metastatic lesion from the previous epithelial ovarian chocolate cyst due to laparoscopic surgery. Peritoneal carcinoma occurring incidentally under a previous laparoscopic trocar site is possible, or it may have been due to metastatic implantation caused by the surgical technique or instrumentation. An operation for a malignant condition entails concerns that vary considerably from those encountered during an operation for a benign condition. Patients suffering from malignant conditions might not value the advantages of port-site metastasis if the procedure presents an increased risk of tumor spread [1].

Since the first report of metastasis to a laparoscopic port site by Dobronte et al in 1978, it has become increasingly clear that laparoscopic procedures for both abdominal and thoracic

malignancies may be followed by metastasis to surgical access wounds [2]. Wound implantation caused by the surgical technique during laparoscopic surgery has been highlighted in many reports.

Furthermore, port-site metastases after laparoscopic surgery for malignancies, including ovarian, endometrial, gastrointestinal, and cervical cancers without peritoneal carcinomatosis, have also been described [3]. Interestingly, our case was of a laparoscopic operation for a benign ovarian endometrioma, and not a malignancy.

Ovarian and peritoneal carcinomas derived from ovarian chocolate cysts usually exhibit endometrioid or clear-cell histology. Whether there is the possibility of a serous cystadenocarcinoma derived from a prior ovarian chocolate cyst remains unknown, or perhaps it is just an incidental primary peritoneal carcinoma at the laparoscopic port site.

Clinical management of peritoneal carcinoma is the same as for ovarian carcinoma. Laparoscopic techniques for treating gynecological tumors must be carefully and safely applied, for malignant as well as benign tumors. All efforts should be made to eliminate the possibility of port-site recurrence [4].

References

- [1] Savalgi ES. Port-site metastasis in the abdominal wall: fact or fiction? *Semin Surg Oncol* 1998;15:189–93.
- [2] Dobronte Z, Wittmann T, Karacsony G. Rapid development of malignant metastases in the abdominal wall after laparoscopy. *Endoscopy* 1978;10: 127–30.
- [3] Reymond MA, Wittekind C, Jung A, Hohenberger W, Kirchner T, Kockerling F. The incidence of port-site metastases might be reduced. *Surg Endosc* 1997;11:902–6.
- [4] Steinert R, Lippert H, Reymond MA. Tumor cell dissemination during laparoscopy: prevention and therapeutic opportunities. *Dig Surg* 2002;19: 464–72.