

The great imitator: miliary peritoneal tuberculosis mimicking Stage III ovarian carcinoma

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Summary

Purpose: To report a case of peritoneal tuberculosis initially mistaken at the time of surgery for metastatic ovarian carcinoma.

Case Report: A 31-year-old Filipino female was found to have increasing abdominal pain, ascites, early satiety, increasing abdominal girth and bilateral complex masses. Diagnostic laparoscopy revealed the presence of > 4 liters of ascites, a frozen pelvis secondary to what appeared to be bilateral ovarian carcinomas, along with miliary seeding of the entire anterior abdominal wall, omentum, small bowel and small bowel mesentery, right and left diaphragmatic surfaces, and hepatic surface. Frozen section, at the time of laparotomy, revealed necrotizing granulomas most consistent with disseminated tuberculosis that was confirmed at the time of final pathologic review and culture.

Conclusion: Peritoneal tuberculosis can be mistaken for widely metastatic ovarian carcinoma at time of surgery.

Key words: Miliary tuberculosis; Ovarian carcinoma.

Introduction

Over the past decade, tuberculosis has been on the rise in the United States. Some of this has been due to an increase in immunocompromised patients, but it has also been the result of immigration of patients to the United States from endemic areas or areas of high-prevalence [1, 2]. Although rare in the Western world, pelvic tuberculosis is a common cause of infertility in developing countries [3].

The case presented is that of a 31-year-old woman with miliary peritoneal tuberculosis which was initially mistaken for metastatic ovarian carcinoma at the time of surgery.

Case Presentation

A 31-year-old nulliparous Filipino female presented to the emergency department with pain which had greatly intensified over the last 2 days. The pain had been present, at a lower intensity, for 3-4 months. The patient was afebrile and had no emesis or diarrhea. A complete blood count including white blood cell count differential was within normal limits. Elicitation of a further history found symptoms consistent with increasing nausea, early satiety, increasing abdominal girth despite weight loss, and increasing eructation. The patient had moved to the United States from the Phillipines after completion of her college education. She had no other medical or social history of any significance. Her gynecologic history was unremarkable, and the patient had never attempted to become pregnant. Physical examination revealed a thin female with a markedly distended abdomen showing a fluid wave along with engorge-

ment of the superficial veins. Pelvic examination revealed a fixed uterus with bilateral pelvic masses. Ultrasonographic examination confirmed the above pelvic examination revealing bilateral complex masses and a large amount of ascites most consistent with an ovarian carcinoma. Serum CA-125 was 896 U/ml.

The patient was admitted on intravenous narcotics and hydration secondary to pain refractory to intravenous ketoralac in the emergency department. Her pain worsened overnight and she was taken to the operating room for diagnostic laparoscopy after a thorough informed consent was obtained.

Diagnostic laparoscopy revealed the presence of > 4 liters of ascites which was aspirated and sent for cell block and cytology. Exploration of the abdomen and pelvis revealed a frozen pelvis secondary to what appeared to be bilateral ovarian carcinomas. Miliary seeding of the entire anterior abdominal wall, omentum, small bowel (Figure 1) and small bowel mesentery, right and left diaphragmatic surfaces, and hepatic surface con-



Figure 1. — Miliary disease involving the small bowel.

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sistent with stage III ovarian carcinoma was encountered. An intraoperative gynecologic oncology consultation was called, and the laparoscopy was converted to a midline laparotomy.

Retroperitoneal dissection of the pelvic masses and frozen pelvis was undertaken. A first operative frozen section of the left adnexa revealed extensive necrosis. Further frozen section analysis of the right adnexa and uterus revealed necrotizing granulomas consistent with possible tuberculosis infection. Intraoperative infectious disease consultation was called and cultures for tuberculosis, bacteria, and fungi were obtained from tissue and ascitic fluid.

The final pathologic report revealed necrotizing granulomas of the uterus, fallopian tubes, ovaries and attached peritoneum. Ascitic fluid culture grew *Mycobacterium tuberculosis*. The patient's HIV test was negative. She was released from the hospital on triple drug therapy for tuberculosis (including isoniazid, rifampin, and pyrazinamide) under the care of the infectious disease service. She is alive and well at this time.

Discussion

The patient presented illustrates the fact that patients with disseminated tuberculosis can present with symptoms, physical, ultrasonographic and laboratory findings suggestive of metastatic ovarian carcinoma [4-7]. Travel and immigration from developing countries to developed countries has changed the pattern of who is at risk for tuberculosis in Western countries [1, 2, 8].

Preoperative discrimination between advanced ovarian cancer and peritoneal tuberculosis is not easily accomplished. Radiographic studies of the chest may not show any evidence of disease [9]. Tuberculin skin testing is often non-reactive in intra-abdominal disease [9]. In countries with a high prevalence, laparoscopic or micro-laparoscopic evaluation is beginning to be studied in patients considered at high risk for tuberculous peritonitis [10].

In patients at risk for this disease, especially young, immunocompromised patients and immigrants from high-prevalence areas, tuberculosis must be added to the differential diagnosis when a female presents with signs and symptoms otherwise consistent with ovarian carcinoma.

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