Images in surgery

This section features outstanding photographs of clinical materials selected for their educational value or message, or possibly their rarity. The images are accompanied by brief case reports (limit 2 typed pages, 4 references). Our readers are invited to submit items for consideration.

Pseudomyxoma peritonei

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THE PATIENT WAS a 71-year-old man admitted for the evaluation of an asymptomatic 7-cm thoracic aortic aneurysm. On physical examination, he was noted to have abdominal ascites. A computed tomography scan of the abdomen showed intra-abdominal heterogeneous mucinous material with scalloping of the liver, spleen, and mesentery.

Accepted for publication November 14, 2000.

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Surgery 2002;131:230-1.

0039-6060/2002/$35.00 + 0 **11/60/113111**
doi:10.1067/msy.2002.113111

The patient underwent a diagnostic laparoscopy that revealed a large amount of a gelatinous material on the peritoneal surfaces with whitish nodules on the mesentery, liver, intestine, and peritoneum (Figs 1 and 2). Multiple biopsy specimens were sent for a pathologic examination and proved to be mucin associated with variable-grade intestinal type epithelial neoplasms consistent with pseudomyxoma peritonei. The patient was scheduled for an extensive surgical resection and chemotherapy.

DISCUSSION

Pseudomyxoma peritonei or "jelly belly" is associated with mucinous implants on the peritoneal

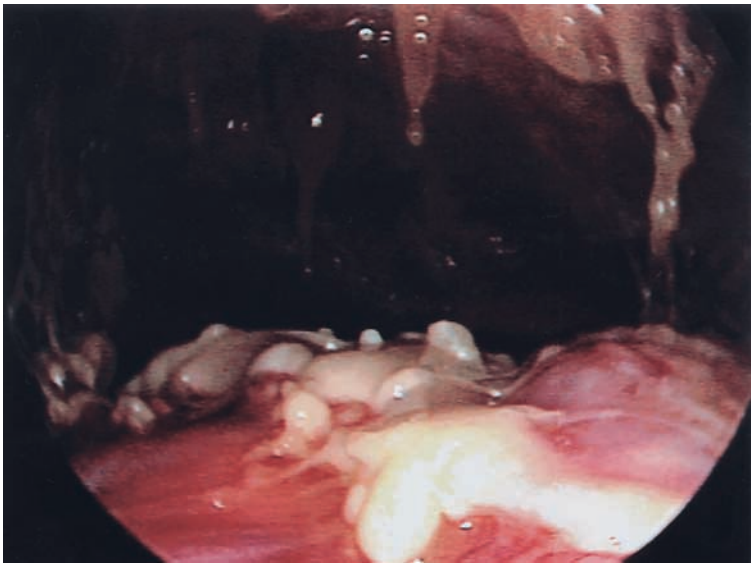

Fig 1. Laparoscopic view showing gelatinous material on peritoneal surface.

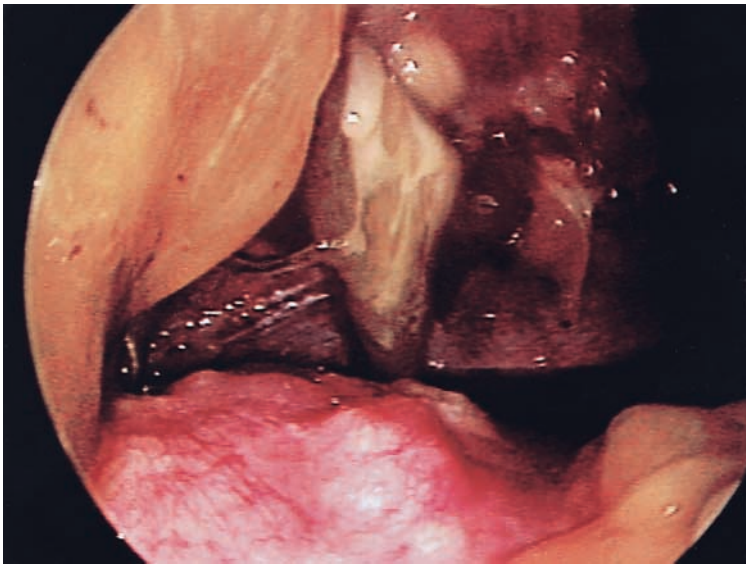

Fig 2. Laparoscopic view showing gelatinous material on peritoneal surface.

surfaces and omentum. It is found in 2/10,000 laparotomies and is 2 to 3 times more common in women than men.[1] The first case was described by Rokitansky[2] in 1842, but given the name pseudomyxoma peritonei by Werth[3] in 1884 in association with ovarian carcinoma. In 1901 Frankel[4] described it with a cyst of the appendix.

It is caused by low-grade neoplastic mucus-secreting cells within the peritoneal cavity sparsely distributed within extracellular mucin in association with ovarian or appendiceal tumors.

The most common presentation is accidental at laparotomy for appendicitis or ovarian tumor. Symptoms include abdominal pain, distention, mass, nausea, vomiting, and fatigue. The disease may cause obstruction of the ureters or the venous return from the lower extremities.

Plain films may show central displacement of the intestines, obliteration of the psoas shadow, and calcifications within the gelatinous masses. Ultrasound shows nonmobile echogenic ascites with scalloping of the liver and spleen margins from external pressure. On computed tomography scan, mucin has a density similar to fat with liver and spleen scalloping and central displacement of bowel loops.[5] Carcinoembryonic antigen and carbohydrate antigen 19-9 might be elevated and rise with recurrent disease.

Treatment includes radical surgical excision with appendectomy and oophorectomy in women, and adjuvant hyperthermic intraperitoneal and systemic chemotherapy.[6,7]

Recurrence is common, affecting around 76% of patients, and requires reoperation with or without adjuvant chemotherapy. Recurrent disease is more likely to occur on intestinal surfaces with adhesions, causing obstruction. Solid organ and lymph node metastases are unusual and represent high-grade carcinoma.

Five- and 10-year survival rates are 53% and 32%, respectively. Survival rates are worse when there are more malignant clinical and pathologic features.[8]

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