

Malignant Peritoneal Mesothelioma Mimicking Ischemic Colitis

Yuusuke Mitsuka Shintaro Yamazaki Taiki Miyakuni
Atsuko Iwama Tomoya Funada Yoshifumi Watanabe
Teruo Kaiga Shunji Okada Mitsugu Kochi
Tadatoshi Takayama

Department of Digestive Surgery, Nihon University School of Medicine, Tokyo, Japan

Key Words

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Abstract

The prognosis of malignant peritoneal mesothelioma is extremely poor with a mean survival time of 12 months. The initial symptoms are poor and atypical. Because of its rare entity and little knowledge of its treatments, there are few reports of long-term survival. We encountered a very unique case with strong impression on radiological findings of malignant peritoneal mesothelioma. We had misdiagnosed it because of the findings and because the time course was similar to that of ischemic colitis. The radiological findings on CT and enema disappeared within one week after antibiotic therapy.

Introduction

The prognosis of malignant peritoneal mesothelioma (MPM) is extremely poor with a mean survival time of 12 months. The initial symptoms are poor and atypical (abdominal distention, dull pain, ascites). The diagnosis can be confirmed by histopathological findings or hyaluronic acid level of ascites. It is hard to make a first diagnosis and most cases are found to show wide spread to other organs. Thus, the patients receive a diagnosis after collection of a huge amount ascites or surgical treatment. Because of its rare entity and little knowledge of its treatments, there are few reports of long-term survival. We experienced a case that achieved long-term survival with the combination regimen of CDDP + VP-16 followed by surgical resection. This regimen has a potential to improve survival.

Case Report

A 74-year-old woman was admitted to a local clinic with lower abdominal pain, melena and low-grade fever. Contrast enema demonstrated segmental stenosis and a thumbprint-like appearance in the sigmoid colon (fig. 1a). Pelvic enhanced CT showed wall thickening and mesenterium inflammation of the sigmoid colon (fig. 1b). The patient was diagnosed with ischemic colitis. The radiological findings and inflammatory response improved within one week following antibiotic therapy (fig. 1c). Four months later, she was referred to our hospital because of waxing and waning abdominal symptoms. Laboratory data were not specific but for inflammatory response. The serum CA125 level had increased to 202 U/ml among other tumor markers. A 50-mm slightly enhanced oval tumor with a small amount of ascites was detected on pelvic CT (fig. 1d). Surgical treatment was performed with a diagnosis of gastrointestinal stromal tumor.

At operation, a large volume of clear mucous ascites and a number of rice-grain-sized white disseminated lesions scattering in the Douglas pouch were noted. The 54-mm yellowish elastic soft tumor involved the mesentery of the small intestine and stretched and compressed to the serous membrane whereas the intestinal lumen was intact (fig. 2a). The tumor was suspected of being extraintestinal in origin and partial resection of small intestine was performed. Hematoxylin-eosin staining showed anisokaryosis and structural atypia (fig. 2b). CD34 and C-kit were negative while keratin, vimentin and EMA(+) were positive on immunohistochemistry. The diagnosis of MPM was settled by a marked elevated hyaluronic acid level of 625,000 ng/ml ascites sample.

Combination chemotherapy of CDDP and VP-16 was performed as adjuvant chemotherapy. The patients has stably treated with this regimen once a month with no new lesions, no elevation of tumor markers and no ascites for 2 years.

Discussion

MPM is hard to diagnose preoperatively. The existence of thickness in the peritoneum and mesenterium, intraabdominal multiple nodules and ascites are not specific [1]. The peritoneal origin accounts for 12.5–25% in all malignant mesotheliomas [2] and is often found in patients in their 40s to 50s. Although a causal relationship with asbestos has been demonstrated, some have no exposure history like the present case [3]. It is histologically classified into epithelial (most common), sarcomatoid and biphasic types [4], but there is no therapeutic differentiation. There are few reports of long-term survival and the prognosis is extremely poor with a mean survival time of 12 months [5].

The hyaluronate acid level of ascites is the only way to make a differential diagnosis, however MPM is rarely considered as in the present case. Moreover, preoperative diagnosis is generally difficult because of the discrimination between reactive mesothelium cells and tumor cells. The immunohistological staining of hyaluronic acid by Alcian blue and hyaluronidase digestive test in tumor cells is definitive for diagnosis. CA125 level is not specific for this disease, but some reports propose that CA125 is useful as an indicator of treatment effects.

Although surgical treatment is recommended for the MPM, complete resection is often difficult. Most cases show wide spread to other organs when surgical treatment is performed. In such cases, adjuvant therapies are indispensable to prolong the prognosis while there are few reports of long-term survival [6, 7].

There has been no consensus of the effective treatments for MPM. We previously experienced two cases who achieved long-term ascitic control with combination chemotherapy of CDDP and VP-16 followed by surgical treatment [8]. This regimen has also good impact on survival in the present case. The patient already had multiple peritoneal disseminations at operation, however she remains alive over 2 years after

surgery without symptoms. The combination therapy of this regimen following reduction surgery may be a powerful option for MPM.

Fig. 1. **a** Contrast enema demonstrated segmental stenosis and a thumbprint-like appearance in the sigmoid colon. **b** Pelvic enhanced CT showed wall thickening and mesenterium inflammation of the sigmoid colon. **c** The radiological findings on contrast enema had vanished within one week following antibiotic therapy. **d** An oval slightly enhanced tumor 50 mm in diameter was detected on pelvic CT.

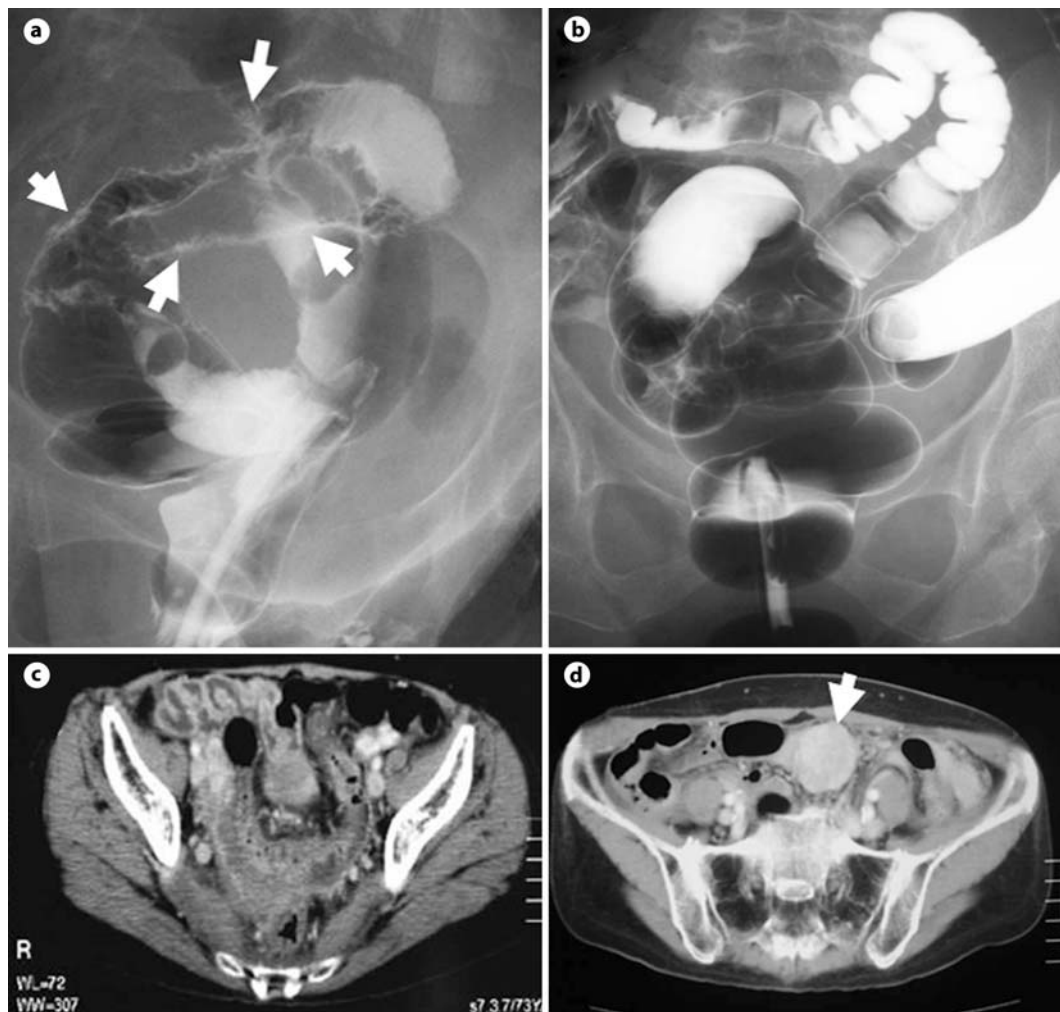
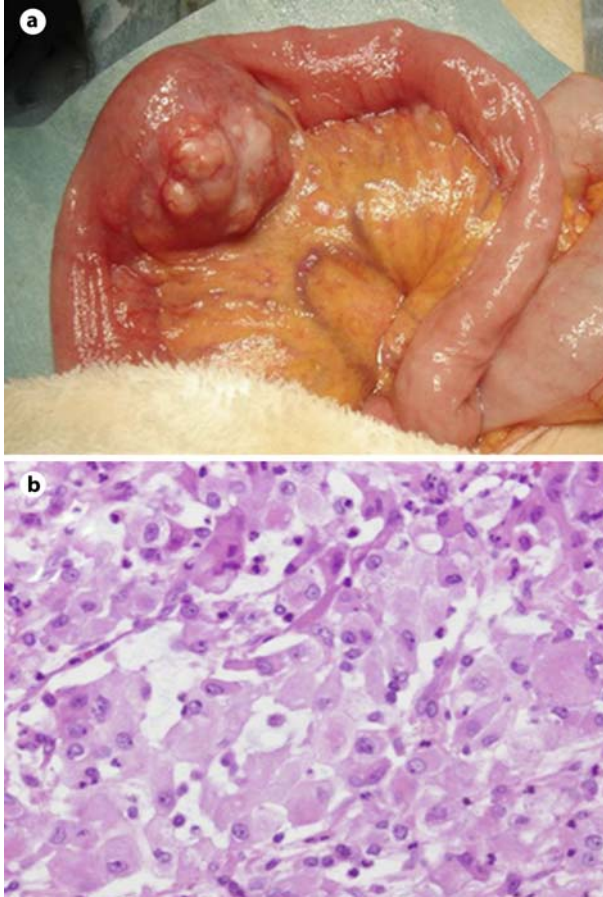


Fig. 2. **a** Intraoperative photograph. The 54-mm yellowish elastic soft tumor involved the mesentery of the small intestine and stretched and compressed to the serous membrane whereas the intestinal lumen was intact. **b** Hematoxylin-eosin staining showed marked anisokaryosis and structural atypia. Original magnification $\times 400$.



References

- 1 Otsuka S, Inagaki Y, Tsukada N: A case of pleural malignant mesothelioma with high serum CA15 levels. *J Gastroenterol* 2001;98:675–680.
- 2 Murai Y: Malignant mesothelioma in Japan: analysis of registered autopsy cases. *Arch Environ Health* 2001;56:84–88.
- 3 Naka H, Naka A: Clinico-pathological review of clinical reports in 100 Japanese patients with peritoneal mesothelioma. *Jpn J Cancer Clin* 1984;30:1–10.
- 4 Sasaki M: Asbestos pollution and disease: pathology of malignant mesothelioma. *Pathol Clin Med* 1989;7:709–719.
- 5 Kitahara K, Ogami K, Takada M, et al: A case of peritoneal malignant mesothelioma. *Jpn J Cancer Chemother* 1989;16:2449–2452.
- 6 Horikawa N, Higashiyama K, Sakamoto T, et al: Malignant peritoneal mesothelioma responded to repeated peritoneal injection of CDDP. *J Jpn Surg Assoc* 2001;62:3054–3058.
- 7 Kuwahara K, Ishida H, Osawa T, et al: Treatment experience of malignant peritoneal mesothelioma in which CDDP and OK-432 were effective. *Jpn J Cancer Chemother* 2002;29:2333–2335.
- 8 Kasakura Y, Fujii M, Mochizuki F, Mazaki T, Iwai S, Yamada T: Malignant peritoneal mesothelioma: report of 2 cases. *Jpn J Gastroenterol Surg* 2000;33:70–74.