Hiroshima J. Med. Sci.
Vol. 61, No. 2, 43~44, June, 2012
HIJM 61−8

Benign Papillary Mesothelioma of the Peritoneum Associated with Gastric Cancer : Report of a case

Tsuguo FUJITAKA[1)], Yutaka DAIMARU[2)], Masayuki SHISHIDA[1)], Minoru KAMEOKA[1)], Shigeru KATAYAMA[1)] and Tsuneo TANAKA[1)]

1) Department of Surgery, Otagawa Hospital, 1-21-25 Hesakasenzoku, Higashi-ku, Hiroshima 732-0009, Japan
2) Laboratory of Pathology, Hiroshima General Hospital, Hiroshima, Japan

ABSTRACT

Benign papillary mesothelioma of the peritoneum is an uncommon lesion that is usually discovered by chance during a surgical procedure. This lesion resembles metastatic carcinoma in gross appearance; therefore, intraoperative diagnosis can be difficult. This report presents a case of benign papillary mesothelioma concurrent with gastric cancer. The tumor was located on the hepatogastric ligament and resembled a metastatic peritoneal implant. A pathological review confirmed the diagnosis to be benign papillary mesothelioma.

Key words: *Benign papillary mesothelioma, Gastric cancer*

Benign papillary mesothelioma of the peritoneum is an uncommon lesion that is usually discovered by chance during surgical procedures[1)]. This lesion resembles metastatic carcinoma in its gross appearance, making intraoperative diagnosis difficult[1-3)]. Most cases have been reported in females, and only one case of this lesion occurring in association with gastric cancer has so far been documented[2)]. This report presents a case of benign papillary mesothelioma concurrent with gastric cancer, which was discovered incidentally during surgery.

CASE REPORT

A 62-year-old male with no history of previous surgery was admitted to the hospital with anemia. He had a past history of gastric ulcer, thus endoscopy was performed and gastric cancer was detected. Computed tomography revealed no distant metastatic lesion, although there were swollen gastric lymph nodes. Total gastrectomy was initiated, during which three deposits of diameter <1 cm were detected on the hepatogastric ligament. One deposit was procured for historical examination because these lesions resembled metastatic peritoneal implants, whereas the other deposits were removed along with en bloc resection of the stomach. Intraoperative wash cytology revealed no evidence of residual malignancy, and no ascites were evident on further exploration. The pathological analysis identified poorly -differentiated -medullary adenocarcinoma of the stomach with invasion of the gastric wall and possible exposure of the serosal surface. The surgical margins of the resected specimen were negative for tumor cells, and metastasis was identified in four lymph nodes. The peritoneal lesion comprised papillary proliferations of mesothelial cells (Fig. 1), and an immunohistochemical analysis revealed this lesion to be positive for calretinin and D2-40, confirming its mesothelial origin (Fig. 2). A pathological review identified the lesion to be benign papillary mesothelioma. The postoperative course was uneventful and the patient was subsequently discharged from the hospital.

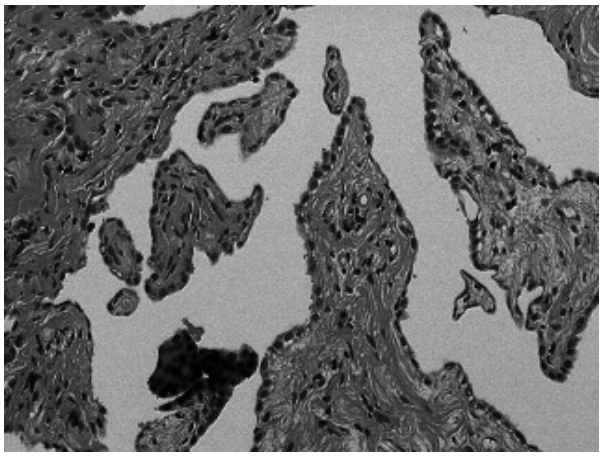

Fig. 1. Papillary structures in mesothelial cells (hematoxylin and eosin staining 100 ×)

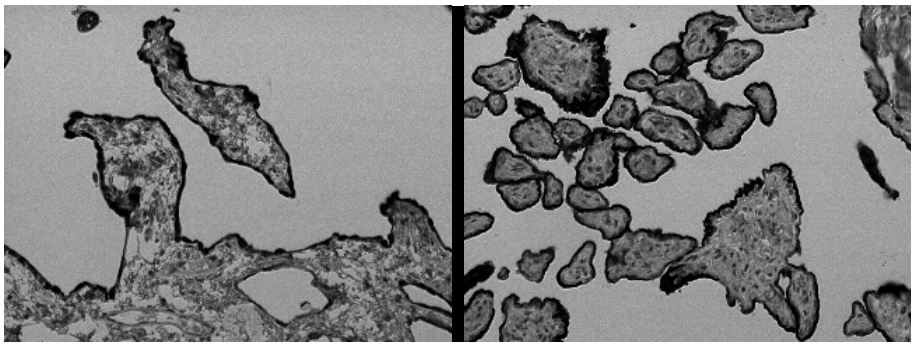

Fig. 2. Mesothelioma positive for D2-40 (left, 100 ×) and calretinin (right, 100 ×)

DISCUSSION

Benign papillary mesothelioma is a very rare tumor that is usually discovered by chance during surgical procedures or autopsy. Most benign papillary mesotheliomas are found in females >35 years old, although they may appear at any age[1]. Surgeons must be aware of these lesions because of their resemblance to metastatic peritoneal implants, in order to avoid a misdiagnosis of carcinoma. Only two cases of these lesions occurring concomitant with gastrointestinal cancer have been reported. In one case, benign papillary mesothelioma was found in association with gastric cancer[2], and the other lesion was found in association with colon cancer[3]. Distinguishing papillary mesothelioma from metastatic adenocarcinoma remains a challenge, and these papillary lesions need to be distinguished from metastatic tumors, particularly in the ovary. A combination of routine histological and immunohistochemical analysis[1] aids in making a diagnosis in most cases. In our case an immunohistochemical analysis helped to distinguish benign papillary mesothelioma from metastatic carcinoma. However, distinguishing papillary mesothelioma from mesothelial malignancy is even more difficult. The diagnosis of benign papillary mesothelioma should be established on the basis of the generally accepted criteria, including a lack of invasion, cytological uniformity, morphological differentiation, and a lack of mitotic figures[3]. Benign papillary mesothelioma may be a benign neoplasm or a reactive condition. These lesions may be considered to be part of a reactive process in cases where they are associated with prior surgery, prior endometriosis or pelvic inflammatory disease[1]. They are normally found on the free edge of the omentum in the case of gastric cancer[2] and on the peritoneum of the mesentery in the case of colon cancer[3], thus indicating that such lesions may develop as a reaction to the irritating presence of a tumor. It was evident that these lesions in the current case were not associated with prior surgery; however, they developed in close proximity to the carcinoma.

This case emphasizes that lesions found incidentally during exploratory surgery for malignancy should always be confirmed by histopathology, in order to distinguish between benign papillary mesothelioma of the peritoneum and metastatic tumors, which resemble each other in their gross appearance, and thereby avoid any misdiagnosis.

Conflict of interest : Neither of the authors has any conflict of interest to declare.

(Received May 18, 2012)
(Accepted June 26, 2012)

REFERENCES

1. **Goepel, J.R.** 1981. Benign papillary mesothelioma of peritoneum: a histological, histochemical and ultrastructural study of six cases. Histopathology **5:** 21-30.
2. **Gupta, A., Dionello, R., Winslet, M.C. and Tadrous, P.** 2007. Benign papillary mesothelioma of the peritoneum in association with gastric adenocarcinoma. N Z Med. J. **26:** 120 (1248) : U2394.
3. **Tzanakakis, G., McCully, K.S. and Vezeridis, M.P.** 1989. Benign papillary mesothelioma of the peritoneum: a consideration in the differential diagnosis of peritoneal implants. South Med. J. **82:** 1579-1580.