A case of solitary splenic sarcoid reactions with advanced gastric cancer

Mide kanserinde soliter splenik sarkoid reaksiyonu

To the Editor,

Non-caseating epithelioid cell granulomas (NCEPGs) that occur in response to neoplasms, foreign-body reactions, chronic inflammatory changes, or other infective granulomas in the absence of systemic sarcoidosis are termed "sarcoid reactions". Sarcoid reactions associated with malignant neoplasms have been found primarily in regional lymph nodes-draining primary neoplasms (1). In contrast, reports of solitary sarcoid reactions in splenic parenchyma are scant. We describe a patient with advanced gastric cancer who had sarcoid reactions only in the splenic parenchyma. Our findings are described in accordance with the criteria of the Japanese Classification of Gastric Carcinoma (2).

A 77-year-old Japanese male with a chief complaint of hiccups was referred to our hospital for a type 2 gastric cancer. Distal gastrectomy with Billroth I reconstruction and D2 lymph node dissection were performed. During the operation, no abnormalities of the spleen were observed. On macroscopic examination, a well-circumscribed type 2 tumor was found in the lesser curvature. Histopathological examination showed that the tumor invaded the subserosa, with no lymph node metastasis. The TMN classification according to the Japanese Classification of Gastric Carcinoma was T2N0M0, Stage IIA. He was discharged in good condition and followed on an outpatient basis. Follow-up computed tomography (CT) of the abdomen in postoperative month 16 showed multiple nodules in the splenic parenchyma. Splenic metastases from gastric cancer were diagnosed. The patient received chemotherapy with S-1, an oral anticancer agent containing two biochemical modulators of 5-fluorouracil and tegafur, a metabolically activated prodrug of 5-fluorouracil. In postoperative month 30, an early cancer was detected in the gastric remnant on upper gastrointestinal endoscopy. Before the second operation, the patient had no symptoms or blood test abnormalities suggestive of systemic sarcoidosis. The serum levels of tumor markers were within the normal range. At the time of surgery, the spleen was slightly enlarged, but there were no abnormal findings on the surface. Total gastrectomy of the residual stomach and splenectomy were performed. Macroscopically, a small depression was present on the gastric mucosa, indicating an early carcinoma, and several gray nodules were found in the spleen (Figure 1A). Histopathological examination revealed a well-differentiated adenocarcinoma confined to the mucosa, and multiple NCEPGs were seen in the splenic parenchyma (Figure 1B). There were no metastases or sarcoid reactions in regional lymph nodes. Screening tests were performed to rule out systemic sarcoidosis. There were no signs of systemic sarcoidosis, such as bilateral hilar lymphadenitis or uveitis. The serum angiotensin converting enzyme and the lysozyme level were within normal range. The tuberculin reaction was positive. On the basis of these results, solitary sarcoid reactions of the spleen associated with advanced gastric cancer were diagnosed.

Sarcoid reactions associated with malignant neoplasms are not rare. The first case was reported by Wolbach in 1911 (3). Brincker (1) reviewed 3770 cases of malignant tumors, and 165 cases (4.4%) showed sarcoid reactions. Murata (4) reported on 46 patients with sarcoid reactions to malignant neoplasms. The underlying diagnosis was gastric cancer in 18 patients and lung cancer in 14. Yamamoto (5) diagnosed sarcoid reactions in 7 of 807 patients with gastric cancer. These findings suggest that sarcoid reactions may be associated with gastric cancer. However, nearly all sarcoid reactions were found in regional lymph nodes. The first cases of splenic sarcoid reactions associated with

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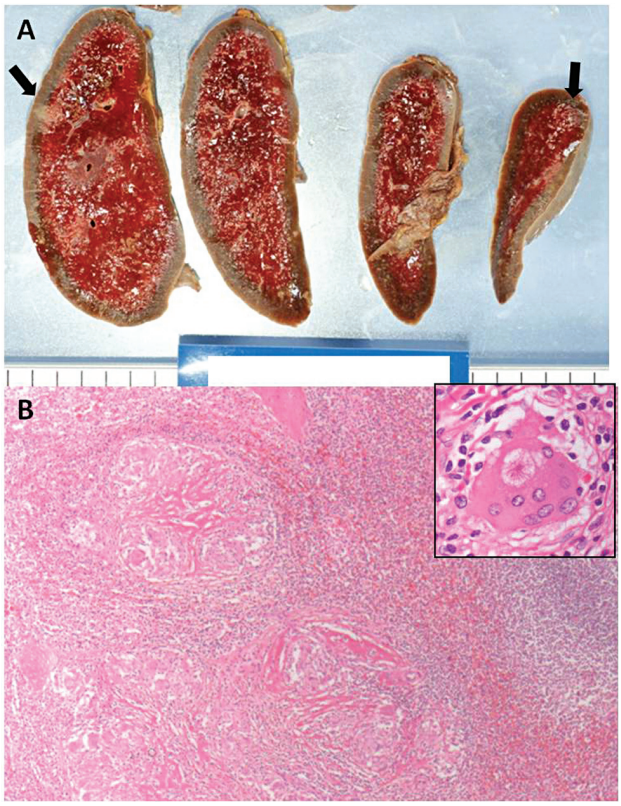

Figure 1. A. Macroscopically, several gray nodules were noted in the spleen (arrow). **B.** Histopathologically, the splenic nodules were granulomas that contained giant cells (shown in the right upper square) of the Langerhans type without central necrosis, indicating non-caseating granulomas (hematoxylin and eosin stain).

gastric cancer were reported by Kojima et al. (6). They reviewed 100 patients with gastric cancer and found sarcoid reactions in the splenic parenchyma of 5 patients (5%).

Since the pathological characteristics of sarcoid reactions are identical to those associated with systemic sarcoidosis, diagnosis has been based on the clinical course. In our patient, because NCEPGs were found immediately after surgery for primary gastric cancer, and there were no signs of systemic sarcoidosis, solitary sarcoid reactions of the spleen associated with advanced gastric cancer were diagnosed. In particular, no NCEPGs were found in the regional lymph nodes of our patient. Kojima (6) has speculated that tumor-associated antigens that induce sarcoid reactions are carried by the lymph to draining lymph nodes. In contrast, the bloodstream apparently carries tumor-associated antigens to the spleen. Because of this difference in the delivery route, sarcoid reactions may solitarily occur in splenic parenchyma without lymph node lesions.

Postoperative splenic sarcoid reactions might be misdiagnosed as metastases from gastric cancer. Especially in patients such as ours who have solitary lesions in splenic parenchyma, sarcoid reactions should be included in the differential diagnosis to prevent inappropriate treatment.

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