Solitary fibrous tumor of the lesser omentum mimicking stomach gastrointestinal stromal tumor

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Solitary fibrous tumor (SFT) is a mesenchymal tumor that rarely occurs in the abdomen. We report a very rare case of an abdominal SFT in the lesser omentum. A 39-year-old Korean man was referred to our center for management of a 9 cm incidental mass in the abdominal space found on a chest computed tomography (CT) during a routine medical examination. He had no symptoms, and there were no specific findings on physical examination. A contrast enhancement CT was performed, and an extraluminal gastrointestinal stromal tumor in the stomach or a pancreatic origin mass was suspected. Surgery was performed and an enclosed mass in the lesser omentum was observed, which was resected completely. The postoperative course was uneventful. Based on microscopy, the omental tumor was diagnosed as SFT.

Keywords: Solitary fibrous tumor, Abdominal cavity, Gastrointestinal stromal tumor

INTRODUCTION

Solitary fibrous tumor (SFT) is one of the tumors originating from mesenchymal cells. It was first found in the pleura in 1931 [1]. The true incidence is difficult to ascertain. However, a study done in a large referral center reported a prevalence of less than 2% [2]. SFT usually occurs in the pleural cavity, but it has been reported in various other parts such as the head, neck, abdomen, and pelvis [3-8]. Herein, we report a rare case of SFT in the lesser omentum. The study was exempted from approval by the Institutional Review Board of Konkuk University Medical Center (IRB exemption No. 2020-12-045) and the informed consent was waived.

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CASE REPORT

A 39-year-old Korean man with no medical or surgical history came for a routine medical check-up. There were no specific findings on duodenoscopy and colonoscopy. An incidental mass, posterior to the stomach was seen on a chest computed tomography (CT). He was referred to the gastrointestinal center for further evaluation and treatment.

A contrast-enhanced abdominopelvic CT showed a well-defined heterogeneous-enhancing low-density mass abutting the stomach body and pancreas body (about 8.4 cm) with multifocal calcifications (Fig. 1). Based on the appearance and enhancement pattern of the tumor, we diagnosed it as a gastrointestinal stromal tumor (GIST) of the stomach with extraluminal growth or an exophytic pancreatic neuroendocrine tumor.

An exploratory laparotomy using an upper mid-line incision was done. We explored the abdominal space and found a well-capsulated mass in the lesser omentum. There was no other specific finding. The mass and omentum surrounding the mass was entirely resected.

The well-circumscribed omental mass measured 8.5 × 7.0 × 5.0 cm and weighed 202 g. The surface of the resected specimen was gray-white and firm (Fig. 2). Neither hemorrhage nor necrosis were found. Microscopically, a patternless architecture of hypo and hypercellular areas separated by hyalinized collagen and vessels was observed (Fig. 3). Tumor cells showed small elongated nuclei and indistinct nucleoli. Mitotic figures were not found. The immu-

Fig. 1. Well-defined heterogeneous-enhancing low-density mass abutting the stomach body and pancreas body (about 8.4 cm) with multi-focal calcifications.

Fig. 2. The resected omental mass is gray-white and firm.

Fig. 3. Patternless architecture of hypo and hypercellular areas separated by hyalinized collagen and vessels is noted (H&E, ×100).

Fig. 4. Immunohistochemical stain was positive for CD34 (A, ×200) and STAT6 (B, ×200), but negative for CD117 (C, ×200) and S-100 (D, ×200).

nohistochemical stain was positive for CD34 and STAT6, but negative for CD117 and S-100 (Fig. 4).

DISCUSSION

SFT is a rare disease and only a few cases in the abdominopelvic cavity were reported in Korea. Among existing Korean reports, seven cases were found in the abdomen, one case in the spleen, three cases in the pancreas, one case in the stomach, and one case in the ischiorectal fossa. No case involving the lesser omentum was reported by searching KoreaMed (<https://koreamed.org>).

The diagnosis of SFT may be suspected based on imaging and clinical features. The imaging appearance of SFT arising in the abdominopelvic cavity has well defined margins. The mass may be lobulated, and there is generally a lack of gross infiltration into adjacent tissues, SFTs arising in visceral sites such as the liver or kidney typically manifest as a large well-defined heterogeneously enhancing mass with or without areas of necrosis. A capsule may be evident [5]. However, a definitive diagnosis requires histologic confirmation. It is difficult to differentiate GIST and SFT based on CT. The usual CT appearance of a GIST is a solid, smoothly contoured mass that enhances brightly with intravenous contrast. It

may be difficult to identify the origin of a large mass because of exophytic growth. We diagnosed a well-defined heterogeneous-enhancing low-density mass abutting the stomach body and pancreas body as GIST because GISTs are most commonly found in the stomach (40%–60%) [9]. However, it was confirmed as an SFT by the immunohistochemical stains. Conventional immunohistochemistry markers of SFT include expression of CD34, Bcl2, CD99, and vimentin in the absence of actin, desmin, S-100 protein, or epithelial markers.

SFTs have a low rate of local recurrence and metastases after surgical treatment. Positive surgical margins and the presence of a histologically malignant component are predictive factors for worse local recurrence-free survival [2,10,11]. SFT recurrence may be due to incomplete resection [10]. Tumors seeding within the pleura, peritoneum, or meninges can spread via the hematogenous route. Therefore, complete resection is required. In addition, it is necessary to conduct a mass excision rather than biopsy if it is clinically suspected because a sufficient amount of tissue is required to confirm SFT.

SFT rarely occurs, but it could be potentially malignant, and surgical treatments have a good prognosis; therefore, it should be considered as a differential diagnosis for abdominal tumors.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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