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A Case of Primary Leiomyosarcoma of the Lesser Omentum

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Leiomyosarcoma is a rare tumor that originates in the smooth muscle, usually in the gastrointestinal tract, the retroperitoneum and the genitourinary tract. The omentum has been rarely reported as a primary site of occurrence with leiomyosarcoma. A 72 year-old woman, with palpable mass on the left upper quadrant of abdomen and weight loss, was admitted to St. Paul's Hospital. Abdominal CT scan showed a 12x8x8 cm-sized cystic mass in the left upper quadrant of the abdomen. Endoscopic ultrasonography showed a large cystic mass between the stomach and the liver, which was 1.6 cm length in wall thickness. Laparotomy and resection of the mass was performed. A 12x8x8 cm-sized mass, originated from the lesser omentum, was discovered near the lesser curvature of the stomach. Microscopic examination revealed spindle-shaped cells with 7-8 mitoses per high power field. She was diagnosed as primary leiomyosarcoma originated from the lesser omentum.

Key Words : *Leiomyosarcoma, Lesser omentum*

INTRODUCTION

Leiomyosarcomas are uncommon malignant tumors that originate in smooth muscle, usually in the gastrointestinal tract, the retroperitoneum and the genitourinary tract[1]. Metastatic tumors in the omentum are not uncommon, but primary omental tumors are reported to be rare and usually malignant[2, 3].

There were a few cases of primary omental leiomyosarcoma reported in the literature[4]. Mostly, these cases originated from the greater omentum. The case with leiomyosarcoma originated from the lesser omentum was extremely rare.

This report describes a rare case of primary leiomyosarcoma of the lesser omentum with a review of the literature.

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CASE REPORT

A 72-year-old female was admitted to our hospital with palpable mass in the left upper quadrant of the abdomen and weight loss. The patient discovered the mass a month previously. She had no prior history of medical and surgical diseases. Her family was healthy with no genetic diseases. The patient denied any symptoms such as nausea, vomiting, diarrhea, constipation, melena, hematochezia, jaundice, hematemesis, flushing and palpitation.

On physical examination, blood pressure was 140/80 mmHg, pulse rate was 74/min, respiration rate was 20/min and the body temperature was 36℃. A hard, movable, man-fist-sized mass was palpated on the left upper quadrant of the abdomen.

The hemoglobin was 10.1 g/dl and the hematocrit was 31%. The white cell count was 8,600/mm^3 with 60% polymorphonuclear cells. The platelet count was 220,000/mm^3. The serum sodium was 141 mEq/L, potassium 4.3 mEq/L, and serum amylase was 121 IU/L.

The protein was 6.7 g/dl, albumin 4.1 g/dl, cholesterol 189 mg/dl, total bilirubin 0.5 mg/dl, alkaline phosphatase 125 IU/L, AST 16 IU/L and ALT was 9 IU/L. Urinalysis did not reveal any evidence of abnormalities.

X-ray of the chest and simple abdomen showed normal. Abdominal CT scan revealed a 12x8x8 cm-sized heterogeneous cystic mass in the left upper quadrant of the abdomen that had irregularly enhanced the solid portion and the large area of the central cystic portion. There was marked displacement of the stomach and omental vessels to the posterior and inferior side, due to compression by the mass (Fig. 1).

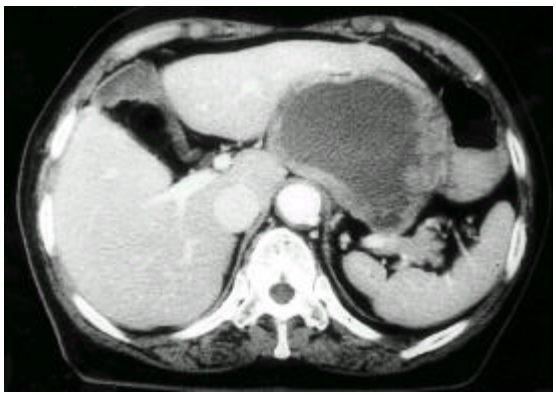

Fig. 1. Abdominal CT scan showed a 12x8x8 cm-sized heterogeneous cystic mass in the left upper quadrant of the abdomen. There was marked displacement of the stomach to posterior and inferior side.

Endoscopic ultrasonography showed a large cystic mass near the stomach and liver, which was 1.6 cm length in wall thickness. The wall echo of the stomach was normal (Fig. 2).

Laparotomy and excision of the mass was performed. A pale gray-colored, lobulated 12x8x8 cm-sized mass, which originated from the lesser omentum, was discovered adjacent to the lesser curvature side of the high body of the stomach. The mass compressed the liver and displaced the stomach to the left lateral side. When the mass was bisected, it was mainly composed of cyst and hemorrhagic materials. But there was a small area of solid component, which was accompanied with focal hemorrhage and necrosis (Fig. 3 and 4).

Microscopic examination showed spindle-shaped cells with 7-8 mitoses per 10 high power field(Fig. 5). She was diagnosed as rarely occurring leiomyosarcoma originating from the lesser omentum.

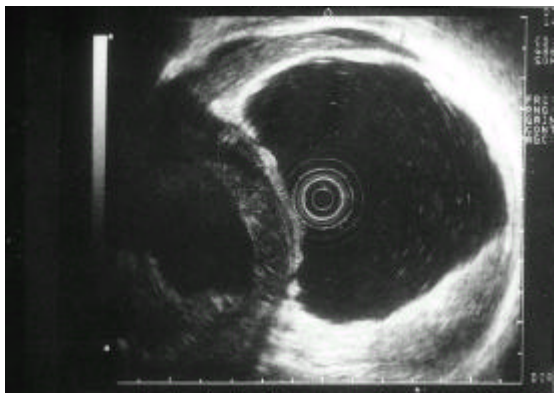

Fig. 2. Endoscopic ultrasonography showed a large cystic mass near the stomach and liver. The wall echo of the stomach near the mass was normal.

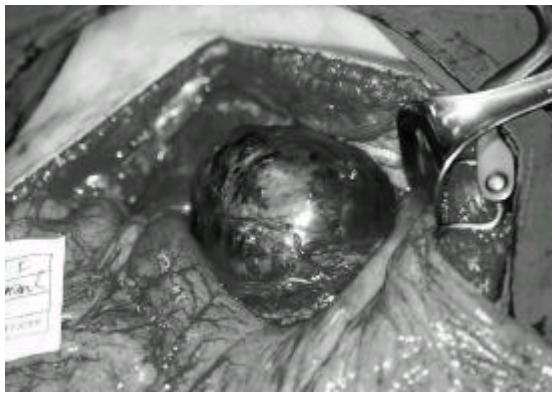

Fig. 3. A 12x8x8 cm-sized, pale gray-colored, lobulated mass was visualized on the operation field.

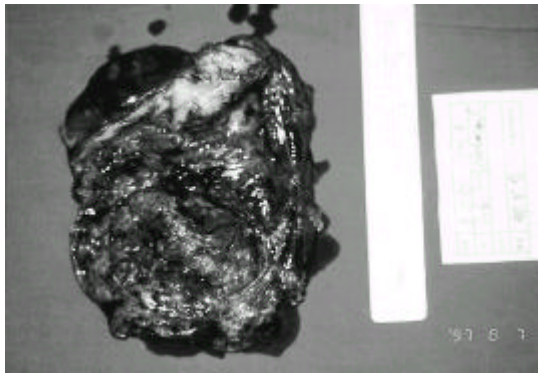

Fig. 4. The bisected mass was mainly composed of cyst and hemorrhagic materials. There was a small area of solid component.

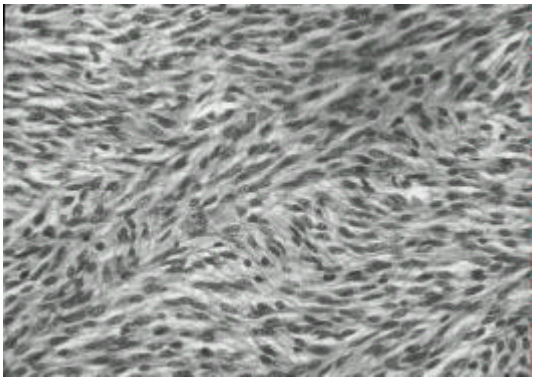

Fig. 5. The microscopic examination revealed leiomyosarcoma with active mitoses (H&E stain, X200).

DISCUSSION

Even though the omentum is composed mostly of adipose tissue, tumors of smooth muscle origin are more common than those of adipose tissue origin. It is surmised that smooth muscle tumors arise from mesodermal elements present in the blood vessels, fibrous tissues and the nerves of the omentum[5]. We recently experienced this rarely occurring leiomyosarcoma originating from the lesser omentum in a 72-year-old woman.

In Dixon's histologic diagnosis of omental tumors, nearly 33% were sarcomatous in nature, while only 18% were of adipose origin. They may affect any age group but occur most commonly in the middle-aged. The most common symptom of omental leiomyosarcoma is abdominal mass, distension or pain; ascites has also been reported[4].

CT scan is useful in diagnosing the tumor. In McLeod's study of leiomyosarcomas,[6] 89 of 118 (75.4%) had abnormal findings on body CT scan, as most were large by the time of diagnosis. Barium enema may also be a useful diagnostic tool. A mass that displaces the stomach superiorly and posteriorly and the transverse colon inferiorly and anteriorly is pathognomonic[6]. Angiography may also be performed, although the hypervascularity of the tumor was the only identifying finding, as presented on Granmayeh's series[7].

Leiomyosarcomas of the omentum were reported to be mitotically active, showing one to four mitoses per 10 high power field in one series and a more higher rate in the other series[8]. The present case showed active mitoses, accounting for 7-8 mitoses per 10 high power fields.

Laparotomy is the procedure of choice for diagnosis, treatment and detection of possible metastases of the omental leiomyosarcoma. Especially, in the case with a primary omental tumor, a total omentectomy, including the mass, should be recommended because of the possible presence of microscopic metastases[9]. Before resection of the omental tumor, a careful search for any possible primary site in another organ is essential[10]. The long-term outcome of patients with omental leiomyosarcomas is unknown. Early reports, such as those by Sanes and Kenny[11] and Levy and Pund,[12] showed poor outcomes with a high post-operative death rate. No trials have been performed using chemotherapy or radiation therapy, but these do not seem to be efficacious based on other sarcomas' durable response to these modalities[13].

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