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MESENTERIC LIPOSARCOMA : A CASE REPORT

YUKIHIRO TATEKAWA[1], TAKASHI YOSHIKAWA[1], TAKAMUNE SHIBAJI[1], YUKIO ASAO[1] and HIROSHIGE NAKANO[2]

1) *National Insurance Union Medical Center of Nara*

2) *First Department of Surgery, Nara Medical University*

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Abstract: We report a case of a large liposarcoma arising from the small bowel mesentery. A 63-year-old man was referred to our outpatient clinic with the chief complaint of abdominal distension in September 1995. The sense of the abdominal distension had progressed gradually over the previous six years. Computed tomography scan and magnetic resonance imaging showed the main component of the mass was fatty tissue. The clinical diagnosis was liposarcoma of unknown origin. Laparotomy showed that the yellow-white, encapsulated mass was found in the small bowel mesentery. The excised tumor was 7700 g in weight. The histological diagnosis was well-differentiated liposarcoma. The flow cytometric DNA ploidy was aneuploidy. The patient received no adjuvant chemotherapy and has been followed up without local reccurrence or metastasis for one year.

Index Terms

liposarcoma, small bowel mesentery

INTRODUCTION

Liposarcoma is a common soft tissue tumor usually arising from lower limb and retroperitonium while it rarely originates from the mesentery. In this report, a large liposarcoma that weighed 7700 g originating from the small bowel mesentery is described.

CASE HISTORY

A 63-year-old man was referred to our outpatient clinic in September 1995 with a six-year history of gradual abdominal distension. A large, soft mass with an irregular surface was palpable in the abdomen. Unenhanced computed tomography (CT) scan demonstrated hypoattenuation in relation to muscle (Fig. 1). Magnetic resonance imaging (MRI) showed high intensity on T 1− and isointensity on T 2− weighted image (Fig. 2). These findings resembled subcutaneous fat. The preoperative diagnosis was liposarcoma, but the origin was unknown. He underwent lapatoromy in December 1995. The origin of this huge mass was confirmed to be the small bowel mesentery (Fig. 3). The mass was encapsulated and the border between the mass and the mesentery was clear. The mass was totally excised; it was lobulated and 7700 g in weight and 40×29×15 cm in size consisting of a mixture of hard and soft portions. Histologic examinations of the specimens from both the hard and soft portions in one cut slice showed atypical lipoblasts in the proliferating fatty tissues. The histological diagnosis was well-differentiated liposarcoma, lipoma-like type (Fig. 4). The patient received no adjuvant chemotherapy and has been followed up for one year with no evidence of local

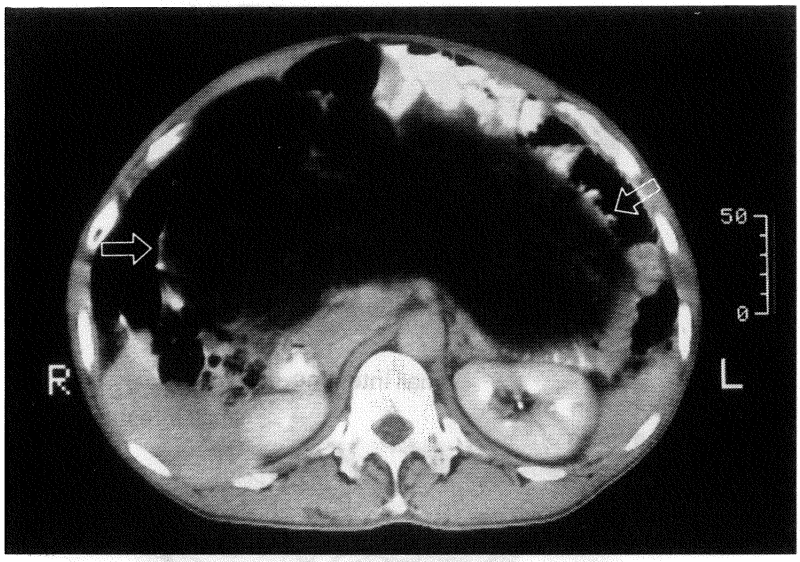

Fig. 1. Abdominal unenhanced CT scan shows huge fatty mass (arrows).

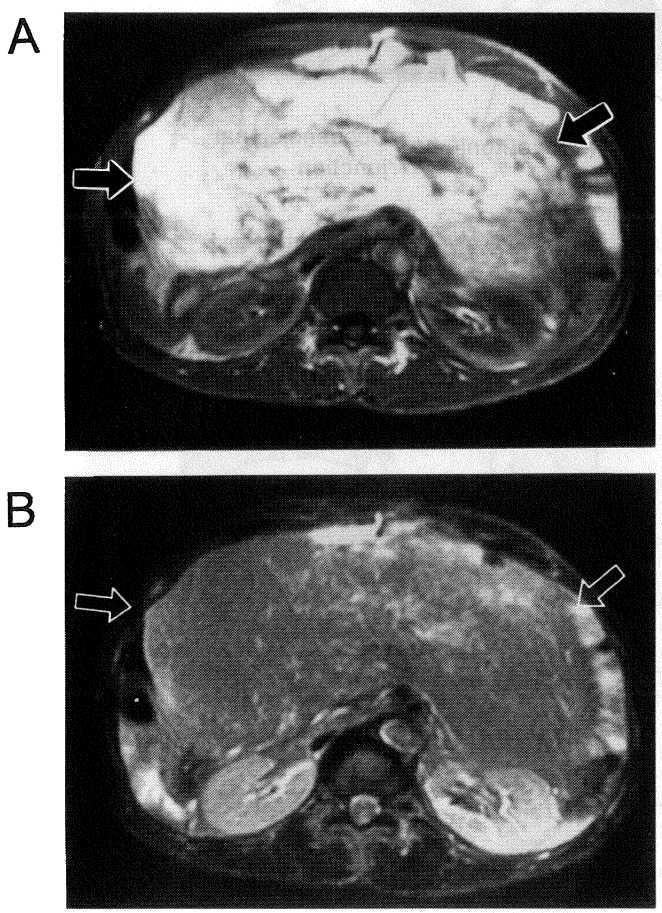

Fig. 2. A, T1-weighted MR image shows high intensity mass (arrows).
B, T2-weighted MR image shows isointensity mass (arrows).

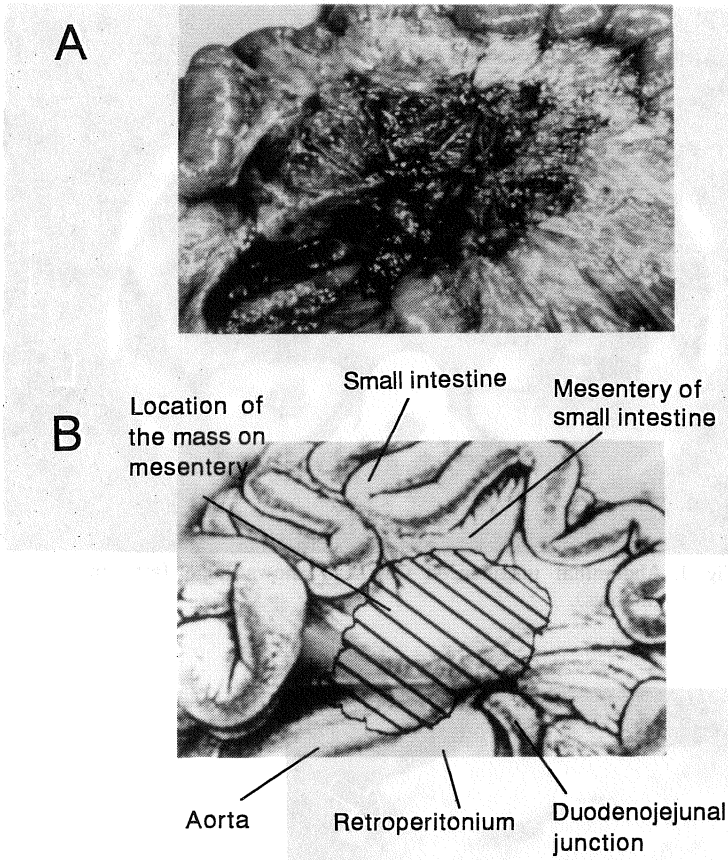

Fig. 3. Operative view at laparotomy
A, Huge mass is taken out from small bowel mesentery and resected mesentery is shown.
B, Sheme shows the location of the origin of the mass.

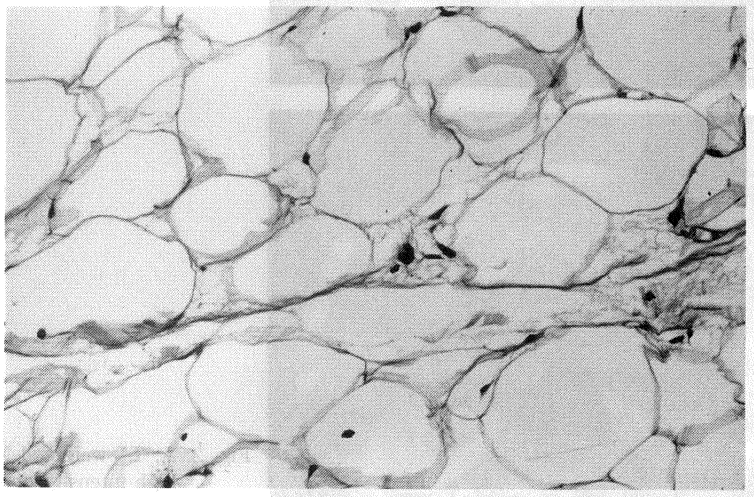

Fig. 4. Microscopic finging shows well-differentiated liposarcoma, lipoma-like type (Hematoxylin-eosin stain ×132).

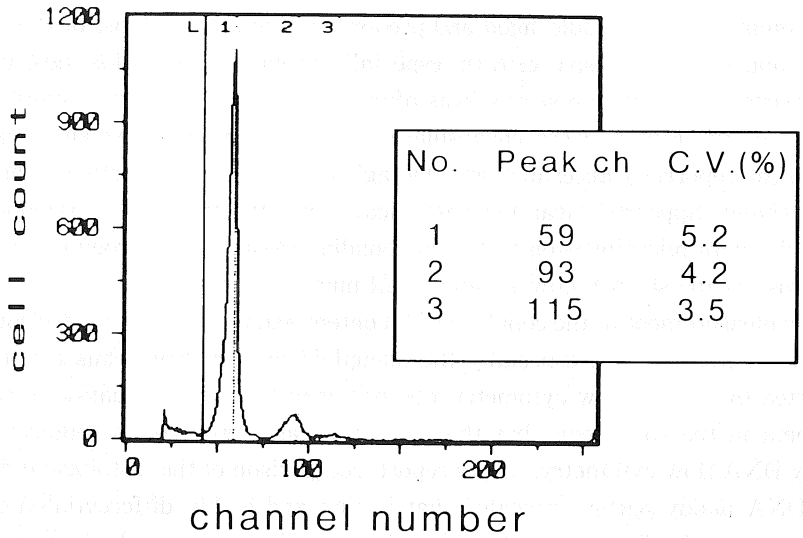

Fig. 5. DNA histogram shows aneuploidy pattern.

recurrence or metastasis.

METHODS AND RESULTS OF THE FLOW-CYTOMETRIC STUDY

For analyzing the celular DNA content, 0.2 g of a frozen sample from the hard portion was taken and finely minced. It was treated with a buffer containing 0.1 % RNase and 0.1 % Triton ×−100 solution. The nuclei were stained with propidium iodide and analyzed by FACScan flow cytometer (Beckton Dickinson). Normal human lymphocytes were used as an external control to define the diploid DNA content. The coefficient of variation (C. V.) was less than 7 %. The diploid pattern, defined as G 0-G 1 in the cell cycle, had only one peak. The aneuploid pattern was defined as having a second nondiploid peak. The DNA histogram of this mass was judged as an aneuploid pattern (Fig. 5).

DISCUSSION

Liposarcoma is a common soft tissue tumor, but the origin of the mesenterium as reported in this paper is rare. Histologically liposarcoma is classified into four types by Enzinger[1] : well -differentiated type, myxoid type, round-cell type and pleomorphic type. Well-differentiated type was divided into four subtypes: lipoma-type, sclerosing type, inflammatory type and dedifferentiated type. Recently there was a report about correlation between CT and MRI findings and histologic findings on abdominal liposarcoma[2]. According to the evaluation of CT and MRI findings, lipoma-like components showed low attenuation on CT and isointensity in relation to subcutaneous fat on T 1− and T 2− weighted MRI. Therefore our case would correspond to well-differentiated, probably lipoma-like type. The prognosis of liposarcoma depends on its histological type. Well-differentiated and myxoid types have a good prognosis, while round-cell and pleomorphic types have a poor prognosis. In the histological feature of

small bowel mesenteric liposarcoma, either well-differentiated or myxoid type is often the case. It is common in the middle-aged and predominant in males. Most of these tumors are huge in size and show expansive growth, especially around the superior mesenteric vessels. Tanaka[3] reported that simple resection was often done as the first step of surgical treatment because most of the tumors were encapsulated or pseudoencapsulated and could be easily detached. In the reports of Enterline[4] and Takagi[5] et al., the border between the tumors and surrounding tissues appeared clear macroscopically, but the tumor was pseudoencapsulated microscopically with microinvasion to the surrounding tissues. The prognosis can not yet be defined because of the short follow-up and small number of cases.

Cytometric measurement of the cellular DNA content and ploidy patterns are correlated with the prognosis of such cancer, especially the aneuploid pattern which has a poor prognosis. Alho[6] reported that DNA flow cytometry was performed for the evaluation of the prognosis of liposarcoma in the soft tissue, but this is a rare case report of mesenteric liposarcoma evaluated by DNA flow cytometry. In his report, comparison of the histological differentiated grade and DNA ploidy pattern revealed that benign and highly differentiated tumors were diploid whereas poorly differentiated tumors, in general, were aneuploid. Even though histological grade of the differentiation was high, exceptions occurred, such as the ploidy pattern being aneuploid. Our case revealed a histologically well-differentiated tumor, of which the ploidy pattern was aneuploid. The reason for the discrepancy between the histology and ploidy pattern was thought to be two points. First, our case was very huge, and then all slices of the specimen were not necessarily cut. The specimen might be heterogenous. Second, the specimen really was pure and might have potential for more malignancy. If a discrepancy between the histology and ploidy pattern is found, more slices should be studied and histologically examined.

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