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Abstract

A 60-year-old man was admitted to our hospital with a right inguinal swelling that had been growing in size without any pain for 7 months. We diagnosed the growth as a right inguinal hernia and operated on him. The growth, however, was found to be a tumor it situated along the spermatic cord and testicular vessels. We diagnosed it as a lipoma. The tumor was resected near part of the internal inguinal ring. Histopathological diagnosis showed well-differentiated liposarcoma of the sclerosing type. Postoperative computed tomography (CT) revealed a large residual tumor in the retroperitoneum. We believed that the tumor was a retroperitoneal liposarcoma and that it developed in the inguinal region. The residue of the liposarcoma was resected onto the right inguinal tract. A periodic follow up has been performed and no evidence of recurrence or metastasis has been seen in the 4 years and 9 months since the second surgery. No adjuvant therapy was performed. Inguinal liposarcomas are relatively rare and in most cases these tumors are thought to originate in the spermatic cord. The origin of the tumor is believed to be the retroperitoneum

KEYWORDS: liposarcoma, retroperitoneum, inguinal hernia

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Case Report

Retroperitoneal Liposarcoma Presenting a Indirect Inguinal Hernia

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A 60-year-old man was admitted to our hospital with a right inguinal swelling that had been growing in size without any pain for 7 months. We diagnosed the growth as a right inguinal hernia and operated on him. The growth, however, was found to be a tumor it situated along the spermatic cord and testicular vessels. We diagnosed it as a lipoma. The tumor was resected near part of the internal inguinal ring. Histopathological diagnosis showed well-differentiated liposarcoma of the sclerosing type. Postoperative computed tomography (CT) revealed a large residual tumor in the retroperitoneum. We believed that the tumor was a retroperitoneal liposarcoma and that it developed in the inguinal region. The residue of the liposarcoma was resected onto the right inguinal tract. A periodic follow up has been performed and no evidence of recurrence or metastasis has been seen in the 4 years and 9 months since the second surgery. No adjuvant therapy was performed. Inguinal liposarcomas are relatively rare and in most cases these tumors are thought to originate in the spermatic cord. The origin of the tumor is believed to be the retroperitoneum.

Key words: liposarcoma, retroperitoneum, inguinal hernia

Liposarcomas account for 9.8% to 16% of soft tissue sarcomas [1-3]. Liposarcomas frequently originate in the retroperitoneum and there is nothing characteristic about the clinical histories of these cases. Therefore, liposarcomas in the retroperitoneum are usually slow to be recognized. Most cases of liposarcoma in the inguinal region are thought to originate in the spermatic cord [4]. It is difficult to diagnose inguinal liposarcomas preoperatively because their histories are longer than those of other malignant neoplasms, and the macroscopic findings that would lend to their detection are very similar to those of either inguinal hernias or more common benign neoplasms such as lipomas [5-7]. We present herein a case of retroperitoneal liposarcoma that developed as a mass in the right inguinal region.

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Case Report

A 60-year-old man was admitted to our hospital with a painless mass in the right inguinal region. He had first noticed it 7 months prior to the visit. The mass had gradually continued to grow since he first discovered it. There were no specific abnormalities in the laboratory data, and upon physical examination, the mass was suspected of being an inguinal hernia in the right groin.

Intraoperatively, a tumor was found along the spermatic cord and testicular vessels, reaching to the preperitoneal fat tissue. It was not invasive, and was diagnosed as a lipoma. The tumor was then resected near part of internal inguinal ring. The removed mass measured 14.0 × 3.8 × 3.5 cm (Fig. 1). The cut surface of the tumor was an almost completely uniform light-yellowish

color. The histopathological diagnosis showed well-differentiated liposarcoma, of the sclerosing type, according to the WHO classification (Fig. 2).

Postoperative computed tomography (CT) revealed a residue of liposarcoma. The residual tumor was large, slightly higher in density than normal fat tissue, and had an indefinite border (Fig. 3). We suspected that this tumor had originated in the retroperitoneum and then spread to the inguinal region (Fig. 4). This was because the residual liposarcoma was larger than the removed tumor and had invaded the retroperitoneal tissue, while the removed liposarcoma hadn't invaded the spermatic cord or the testicular vessels.

A second surgery was performed. Some remaining liposarcoma was discovered in the retroperitoneum along the internal inguinal ring. The remaining liposarcoma was resected along the right inguinal tract. The removed tissue measured 24.0 × 10.0 × 8.0 cm (Fig. 5). On the cut surface, the tumor border was partially definite, but largely indefinite. The histopathological diagnosis of the removed tumor also showed well-differentiated liposarcoma, of the sclerosing type. No malignant cells were found in any of the surgical margins. We didn't perform any adjuvant therapy. Because the tumor consisted of

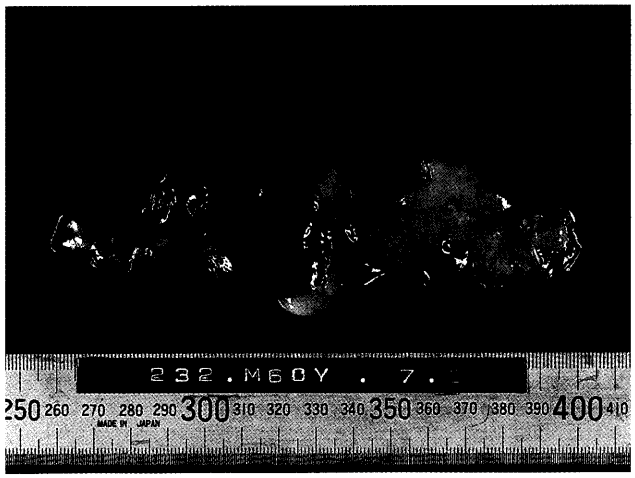

Fig. 1 The mass removed during the first surgery measured 14.0 × 3.8 × 3.5 cm. The removal edge was on the right side.

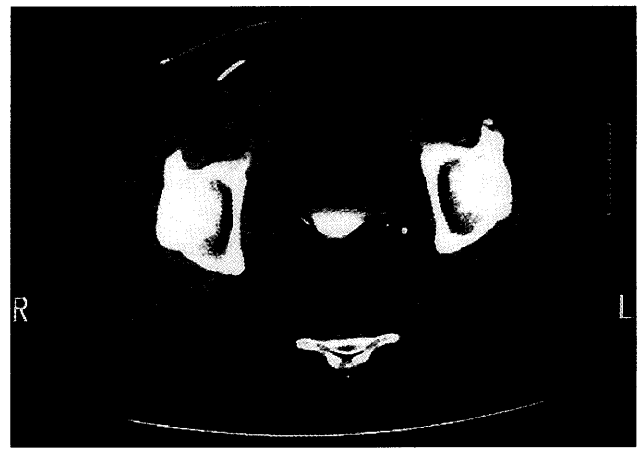

Fig. 3 Postoperative CT revealed some remaining liposarcoma. The residual tumor was large, slightly higher in density than normal fat and had an indefinite border.

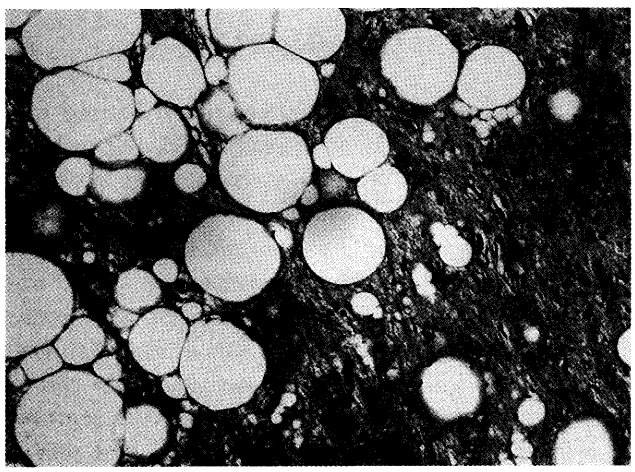

Fig. 2 Histopathological diagnosis indicated well-differentiated liposarcoma of the sclerosing type, according to the WHO classification.

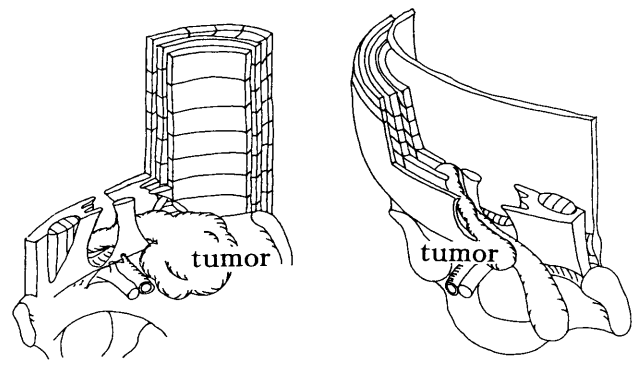

Fig. 4 The schema of retroperitoneal liposarcoma development in the inguinal region.

well-differentiated liposarcoma, wide resection of the adjacent tissue was performed. No malignant cells were seen histopathologically in any of the surgical margins.

A periodic follow up has been performed and no evidence of recurrence or metastasis has been seen in the 4 years and 9 months since the second surgery.

Discussion

Liposarcoma is one of the most common soft tissue sarcomas found in adults. The dominant sites of origin are reported as the extremities, particularly the thigh, comprising 13-60%, and the retroperitoneum, comprising 10-36% [8, 9]. Inguinal liposarcomas are relatively rare, occurring in less than 6.6% of the overall liposarcoma carrying population [5, 8, 9]. The inguinal region communicates directly with the retroperitoneum. Most cases of inguinal liposarcomas are believed to originate in the spermatic cord [4]. In our patient, we suspected that the origin was the retroperitoneum and that the tumor had developed in the inguinal region. We came to this conclusion because the liposarcoma in the retroperitoneum was larger than the inguinal tumor and had invaded the retroperitoneal tissue and also because the liposarcoma in the inguinal region hadn't invaded the spermatic cord or the testicular vessels. Up to this point, only one case with retroperitoneal liposarcoma developing in the inguinal region has been definitely reported [10].

Preoperatively, it is difficult to make definite diagnoses of inguinal liposarcomas because their histories are longer than those of other malignant neoplasms and the macroscopic findings that would lead to their detection are very similar to those of either inguinal hernias or more common benign neoplasms such as lipomas [5-7]. Moreover, in our case, it was difficult to diagnose the liposarcoma intraoperatively because the liposarcoma in the inguinal region was not invasive and the tumor appeared homogenous and light-yellowish in color, as would normal fat or lipoma.

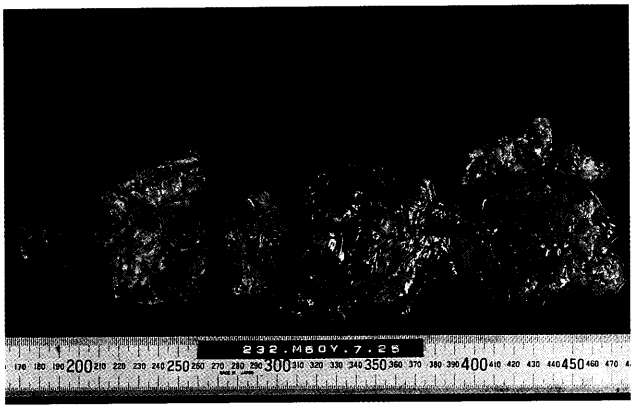

Fig. 5 The tissue removed during the second surgery measured 24.0 × 10.0 × 8.0 cm.

The mass removed during the initial surgery was diagnosed as well-differentiated liposarcoma. Therefore, we performed an abdominal CT to identify whether or not there was a residual tumor in the retroperitoneum. On CTs, well-differentiated tumors often show homogeneous fatty patterns. Poorly differentiated tumors have a higher plain CT level. In our case, the tumor showed a slightly high density on the CT because the amount of sclerosis type, non-fatty tissue was relatively high. The accurate classification of liposarcoma is important because of the differences between types in biological behavior and prognosis [3, 11].

Liposarcomas have a high incidence of local recurrence from 21% to 83%, according to various reports [7, 11, 12]. Enterline, *et al.* [8], reported that 31% of all patients with liposarcoma developed distant metastases and that poorly differentiated liposarcomas especially tended to develop distant metastases. On the other hand, well-differentiated liposarcomas are tumors of intrinsically low-grade malignancy that recur but do not metastasize [12]. Therefore, in this case, careful follow-up was necessary to insure against local recurrence.

Wide or radical excision continues to be the treatment of choice for deep-seated liposarcomas. Some authors report that radical orchiectomy through the inguinal approach should be the initial treatment of choice for paratesticular liposarcomas [7, 13]. Treatment by simple enucleation of the tumor should be discouraged, since this can lead to local recurrence and in some instances, metastasis. Although many liposarcomas appear to be well circumscribed, their exact boundaries often, as in our case, cannot be determined macroscopically, and satellite nodules are frequently missed and left behind at the time of excision.

Although some authors have reported that radiation and chemotherapy are helpful for both primary and metastatic lesions [14, 15], the use of these procedures is still controversial [16-18]. Weiss, *et al.* [17], have discussed the possibility of dedifferentiating well-differentiated liposarcoma following radiation therapy. In our case, although we operated twice, we didn't perform

any adjuvant therapy. This was because the tumor consisted of well-differentiated liposarcoma, wide resection of the adjacent tissue was performed, no malignant cells were seen histopathologically in any of the surgical margins and the effectiveness of radiation and chemotherapy is still controversial.

Reitan, *et al.* [11], analyzed the prognostic impact of various diagnostic and therapeutic factors in a series of 99 liposarcomas. Their analysis indicated that tumor size, histologic subtype, and X-ray density were important prognostic factors, and that the prognoses were also influenced by the tumors' operability and the treatment modalities employed. In our case, the tumor was rather large, but not high risk in terms of histologic subtype or X-ray density.

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