Liposarcoma is one of the most common retroperitoneal primary tumors. Intratumoral hemorrhage is extremely uncommon in retroperitoneal liposarcomas. We report the CT findings in a 32-year-old man with retroperitoneal liposarcoma complicated with intratumoral hemorrhage. To our knowledge, it is not reported in the English literature.

Key words: Liposarcoma; Hemorrhage; Retroperitoneum; CT

CASE REPORT

A 32-year-old man presented with sudden onset epigastralgia and fever 4 days before admission. According to the chart, he has no pertinent medical history. During admission, his temperature was 39°C. Physical examination showed a large mass with tenderness over the left upper quadrant of the abdomen. Laboratory data revealed normal liver and renal function. Serum electrolytes, amylase and lipase were also normal. Plain radiograph of the abdomen showed a large radiolucent mass over the left upper abdomen. Precontrast CT demonstrated a 18×13×7 cm partially well-defined, inhomogeneous mass in the left anterior pararenal space. The mass consisted of soft tissue, fatty densities and a large geographic area of high density at the lateral aspect of the mass, which was consistent with a hematoma. The mass abutted the anterior aspect of the left kidney. Anterior displacement of the bowels and the pancreatic tail, and medial displacement of the abdominal aorta were also noted. The left adrenal gland and the left kidney were well demonstrated. Postcontrast CT showed moderate enhancement in the intratumoral soft tissue components. Owing to its imaging characteristics, a preoperative radiologic diagnosis of retroperitoneal liposarcoma with bleeding was made. At surgery, there was a huge, soft and yellowish retroperitoneal mass with size of 18×12×8 cm. Tumor adhering to the left kidney was found. As a result, surgical excision of the retroperitoneal tumor and left radical nephrectomy were performed. Histopathologic findings of the mass disclosed irregularly sized lobules of fat cells, fibrob-
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last-like spindle cells and lipoblasts admixing with focal hemorrhage. The left kidney was negative for tumor invasion. The final pathological diagnosis was well-differentiated retroperitoneal liposarcoma with hemorrhage. During the next 6 years of follow up, the patient had no subjective clinical complaints and there was no clinical and radiological evidence of tumor recurrence.

DISCUSSION

Primary retroperitoneal tumors are a rare group of tumors in which the majority are malignant and of mesenchymal origin. They are usually large at presentation owing to their insidious growth. Liposarcoma is one of the most frequently encountered primary retroperitoneal tumors, accounting for 34% of primary malignant retroperitoneal soft tissue tumors [1,2]. It is usually seen between the ages of 40 to 60 years and has a slightly higher incidence in females. It is derived from undifferentiated mesenchymal cells, rather than the result of malignant transformation of normal retroperitoneal fat [3].

Histopathologically, liposarcomas can be divided into well-differentiated, myxoid, round cell and pleomorphic variants. The cells in well-differentiated liposarcomas are readily recognized as lipocytes in origin, while cells in other variants are not obviously adipogenic. However, some cells containing round cytoplasmic vacuoles of lipid indicative of fatty degeneration, known as lipoblasts, are almost always present [4].

On CT, liposarcomas are usually inhomogeneous, poorly margined or infiltrative, and they may have CT numbers greater than those of the normal fat [5]. Three distinct CT patterns of liposarcoma have been described: solid, mixed and pseudocystic [2]. These CT patterns reflect the histologic types of liposarcoma. Well-differentiated liposarcomas generally have a mixed CT pattern, while poorly differentiated pleomorphic, round cell, or myxoid liposarcomas are seen as solid pattern with little or no radiologically detectable fat to distinguish from other retroperitoneal tumors. Overall, 80-90% of liposarcomas have enough fat for radiological diagnosis [2].

In our case, the CT appearance of the tumor is characteristic and consistent with a mixed CT pattern, showing fatty attenuation intermingled with soft tissues. However, areas of high density were found within the tumor on precontrast CT, compatible with intratumoral hemorrhage. We postulated that the intratumoral hemorrhage was related to the acute onset of symptoms including fever and epigastralgia in our patient. To our knowledge, liposarcoma complicated with intratumoral bleeding has not been reported in the English literature.

The differential diagnoses of a retroperitoneal mass may also include teratoma, lymphangioma with high lipid content, angiomyolipoma (AML), fat-containing renal cell carcinoma (RCC), lipoma and so on [6,7]. Besides liposarcoma, as in our case, retroperitoneal AML, hemorrhagic pancreatitis and peripheral RCC engulfing the perirenal or renal sinus fat have also been reported as a retroperitoneal hemorrhagic

Figure 1. a. Precontrast CT scan of the abdomen shows a huge, inhomogeneous mass in the left anterior pararenal space. The mass consists of fatty (\(\star\)) and soft tissue (large arrows) densities. A large area of high attenuation within the mass is consistent with hemorrhage (arrowheads). A tissue plane is noted between the mass and the pancreatic tail (small arrows). b. Postcontrast CT scan shows enhancement of the soft tissue components within the mass (arrowheads).
fatty tumor [6-8]. In AML, the kidney may be enveloped in a “scalloped” form. Moreover, the aneurysmal dilatation of intratumoral vessels is characteristic of AML [6]. Pancreatitis can be suggested by the presence of cardinal clinical symptoms and signs such as severe abdominal pain radiating to the back, nausea, emesis, fever, tachycardia and so on. Further confirmation of the diagnosis can be achieved by the laboratory proof of elevated pancreatic isoamylase. Typical CT characteristics of RCC include soft-tissue renal mass, isodensity with the kidney before contrast enhancement, hypodensity with the kidney after contrast enhancement, indistinct mass-kidney interface, calcification and venous invasion of the tumor [9]. Besides, the pattern of tumor engulfing perirenal or renal sinus fat in RCC can usually be differentiated from that of true intrinsic tumor fat in liposarcoma.

Complete resection of retroperitoneal liposarcoma is often difficult because of its infiltrative growth, which encounters easy recurrence and metastasis [3]. The ability to identify the imaging characteristics of retroperitoneal tumors with fat component and further differentiate between them will be helpful to preoperative planning.  

REFERENCES

後腹膜腔脂肪肉瘤合併腫瘤內出血之電腦斷層影像發現

黃敏政  陳耀亮  陳肇長  譚芷峰  蔡明倫  吳冠群  張潤忠
長庚紀念醫院  放射線診斷科

脂肪肉瘤是其中一種最常見的後腹膜腔原發性惡性腫瘤；但是，這種腫瘤極少數會發生腫瘤內出血。我們報告一個三十二歲的男病人患有後腹膜腔脂肪肉瘤合併腫瘤內出血之電腦斷層影像發現。直到目前為止，在英文文獻並未有類似報告。。

關鍵詞：脂肪肉瘤；出血；後腹膜腔；電腦斷層影像