INTRODUCTION

Chronic expanding hematoma is a clinicopathologic entity that is characterized by its increasing size over one month after the initial event of hemorrhage (1). It may resemble malignant neoplasm for its large size, and slow but progressive enlargement (1). Chronic expanding hematoma may occur in various locations, and several studies have sporadically reported that it occurred in the soft tissue, sinonasal cavity, brain and lung, as well as rarely in the adrenal gland (2-9).

Here, we present a case of chronic expanding hematoma, which occurs in the adrenal gland mimicking a hemangioma on multiphase CT, and review the relevant literature on this rare lesion.

CASE REPORT

A 57-year-old man was admitted to our hospital complaining of epigastric fullness and abdominal distension in the left upper quadrant area for two months. He performed coronary artery bypass graft nine years ago for unstable angina and he had been taking aspirin after this procedure. He had also been treated with medication for hypertension and diabetes mellitus. Physical examination showed a more than palm-sized, hard mass without tenderness in the left upper quadrant of the abdomen. Laboratory findings were all in normal range, including the 24-hour urine catecholamine and serum aldosterone level, platelet number, prothrombin time and activated partial thromboplastin time. Multiphase CT was performed 40 and 70 seconds after the contrast injection to obtain the hepatic arterial and portal venous phase images. Unenhanced CT scans showed a well-defined, ellipsoid mass with heterogeneous attenuation between the spleen and left kidney in the left side of the retroperitoneum, measuring 20 cm in its maximal diameter (Fig. 1A). Calcification or macroscopic fat was not present within the mass. Contrast-enhanced CT scans showed several enhancing foci of irregular and frond-like shape in the peripheral portion of the
mass at the hepatic arterial phase (Fig. 1B). These enhancing foci increased in size progressively at the portal venous phase (Fig. 1C), but most part of the mass was not enhanced. Coronal reformatted image (Fig. 1D) demonstrated the same huge mass that displaced the left kidney downward, as well as the spleen and splenic flexure of the colon upward. The left kidney showed delayed renal excretion in contrast to the right kidney, because the left renal artery and vein were stretched and compressed downward. However, the left adrenal gland was not recognized throughout all these images. Considering these CT findings, we diagnosed this lesion as a huge cavernous hemangioma in the left adrenal gland. In addition, the possibility of adrenocortical carcinoma, retroperitoneal gastrointestinal stromal tumor, and angiosarcoma could not be excluded.

The patient underwent surgical excision of the retroperitoneal mass without postoperative complication. The resected mass showed a well-demarcated, round mass with yellow-tan, measuring 22 cm in dimension. The cut surface of the mass contained blood and friable hemorrhagic blood clots, and showed white-tan fibrotic wall peripherally (Fig. 1E). Microscopically, the central area of the mass was full of organized blood clots. The fibrotic wall of the mass consisted of granulation tissue and residual adrenal cortical tissue (Fig. 1F). It did not contain any neoplastic cells. Considering these pathologic findings and its clinical expanding nature over one month, the final diagnosis was determined as chronic expanding hematoma.

**DISCUSSION**

Adrenal hemorrhage is uncommon in adults, and it is mainly caused by trauma, stress, septicemia, anticoagulant therapy, and systemic illness, or associated with tumors (2-6). Most adrenal he-
As is known, this pattern of enhancement was similar to those of adrenal hemangioma (10). Besides, adrenal neoplasms accompanying a hemorrhage, such as pheochromocytoma, adenoma, adrenocortical carcinoma, and hemorrhagic metastases can be included in the differential diagnoses, because these neoplasms contain both hemorrhagic components, centrally and variously, enhancing tumor component peripherally. In addition, retroperitoneal gastrointestinal stromal tumor and angiosarcoma are also needed to be included in the differential diagnoses. We also misdiagnosed our case as adrenal hemangioma before surgery. As shown in our case, differentiation between hemangioma and chronic expanding hematoma is most difficult, and their enhancement pattern seemed to be somewhat different. Hemangioma usually shows globular or nodular peripheral enhancement, because peripheral vascular spaces are filled with contrast material first during the hepatic arterial phase, whereas chronic expanding hematoma may demonstrate both central and peripheral enhancement of irregular shape depending upon the distribution and shape of the granulation tissue (4, 10). Our case also showed peripheral enhancement of irregular and frond-like shape, some of which arose slightly inside from the periphery of the mass. Based on these CT findings, our case seems more likely to be chronic expanding hematoma rather than hemangioma.

In conclusion, we describe a rare case of chronic expanding hematoma in the adrenal gland, which is difficult to diagnose preoperatively, unless it is acknowledged and suspected. Despite its rarity, chronic expanding hematoma needs to be included in the differential diagnoses of unilateral adrenal mass, which shows various patterns of peripheral enhancement and contains internal hemorrhagic component. Moreover, understanding of their different enhancement patterns is helpful in diagnosing chronic expanding hematoma correctly.

REFERENCES


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혈관종으로 오인된 부신에 생긴 만성 확장성 혈종: 증례 보고

이현정1·김민정1·하홍일·이인재1·이관섭1·서진원2·여승구3

만성 확장성 혈종은 출혈이 자연적으로 소실되지 않고 1개월 이상 지속되며 식사히 커지는 질환으로 종양으로 오인될 수 있다. 체내 어느 부위에나 생길 수 있으나, 연부조직에서 많이 보고되어 왔으며, 부신에 생긴 경우는 매우 드물다. 이에 저자들은 혈관종으로 오인된 좌측 부신에 생긴 만성 확장성 혈종 1예를 영상의학적 소견 및 병리 소견과 함께 보고하고자 한다.

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