

A Retroperitoneal Accessory Spleen Misdiagnosed as Pheochromocytoma in a Patient with Hypertension: A Case Report

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Abstract

This is a report on a 44-year-old woman who was referred to our hospital because of hypertension and a left adrenal mass detected by ultrasonic examination. Computer tomography scan revealed a 17 × 12 mm mass in the left adrenal region. The patient underwent surgery for suspicion of left adrenal pheochromocytoma. Histological examination revealed that the resected mass was splenic tissue. This indicated that surgeons should consider the possibility of accessory spleen when adrenal mass is suspected on imaging examination.

Keywords: Accessory spleen; Adrenal mass; Pheochromocytoma; Hypertension

Introduction

Accessory spleen occurs in about 10% to 30% of the population which is usually asymptomatic and does not require treatment [1]. The common location is the hilum of the spleen and around the tail of pancreas [2]. The retroperitoneal accessory spleen in the adrenal area is extremely rare and the diagnosis is challenging even for experienced urologists. In the present study, the case of a female patient with an accessory spleen who underwent surgical resection under the diagnosis of a left adrenal tumor was reported.

Case Presentation

A 44-year-old woman visited another hospital for evaluation of uncontrolled hypertension. The ultrasonic examination revealed a left adrenal mass and pheochromocytoma was suspected. She was therefore referred to our department for surgical treatment. On admission, her blood pressure (BP) was 175/105 mmHg and pulse rate was 88 beats min⁻¹. She denied attacks of headache, palpitation, chest pain and sweating. The computer tomography scan (CT) revealed an oval mass measuring 17 × 12 mm in the left adrenal region (Figures 1A and 1B). Endocrinological examinations of plasma renin activity, aldosterone, steroids and catecholamine levels showed normal results. The review of her clinical history was unremarkable. Since the mass was in the adrenal area and the patient had an uncontrolled hypertension history, a left adrenal pheochromocytoma was still suspected despite of the normal endocrinological examinations. Then the patient received one week of phenoxybenzamine treatment and blood pressure returned to normal. Following informed consent, the patient was scheduled for left laparoscopic adrenalectomy via retroperitoneal approach in December 2016. Intraoperative findings showed a retroperitoneal mass near the normal adrenal gland which was surgically removed. The surgically excised retroperitoneal mass was ovoid in shape and displaced a smooth surface (Figure 2A). The cut surface was solid and pinkish in color (Figure 2B). Microscopic analyses showed normal splenic red and white pulp components and finally a pathological diagnosis of accessory spleen for the retroperitoneal mass was made (Figures 3A and 3B). Post-operatively, the patient recovered well and the blood pressure was in the 140-160/90-108 mmHg range.

Discussion

The accessory spleen is a congenital form of an ectopic splenic tissue. It is typically a round and well demarcated nodule and the diameter is

usually smaller than 2 cm [3]. Most accessory spleens are located near the splenic hilum and the pancreas tail. However, when appearing at atypical locations, the diagnosis can be challenging. In the literature, accessory spleen cases presenting as adnexal mass, retroperitoneal tumors, pancreatic mass, and kidney cancer were reported [4-7]. They were initially mistaken for malignancy, and surgical removal was conducted.

An accessory spleen located in the adrenal region is extremely rare and it was very difficult to make an accurate preoperative diagnosis. After review of the literature, we found one accessory spleen case that was mistaken for a left adrenal adenoma. In that case, despite of several imaging techniques including CT, MRI and enhanced imaging with Gd-DTPA, adrenal cancer could not be excluded and the laparoscopic adrenalectomy was performed via the intraperitoneal approach. Intraoperative findings indicated an accessory spleen located in the intraperitoneal space. In present case, the patient complained of uncontrolled hypertension and CT scan showed a left adrenal mass. Therefore, pheochromocytoma was suspected and no further investigation was performed. To best of our knowledge, this is the first report of retroperitoneal mass which was mimicking adrenal tumor.

CT and MRI are the commonly used imaging modalities for the detection of accessory spleen which showed the same characters to that of the spleen. However, CT and MRI are not always reliable. Sels reported two cases, one with pancreatic islet cell tumor and one with adrenal adenoma, both of which were mistakenly interpreted as an accessory spleen on the basis of specific CT and MRI appearances [8]. Angiography was another imaging technique to detect the accessory spleen as the feeding blood vessels of accessory spleen are usually derived from the splenic artery. Motten once diagnosed an accessory spleen in a patient with super-renal mass using abdominal angiography avoiding surgical treatment [9]. If the diagnosis is still uncertain after

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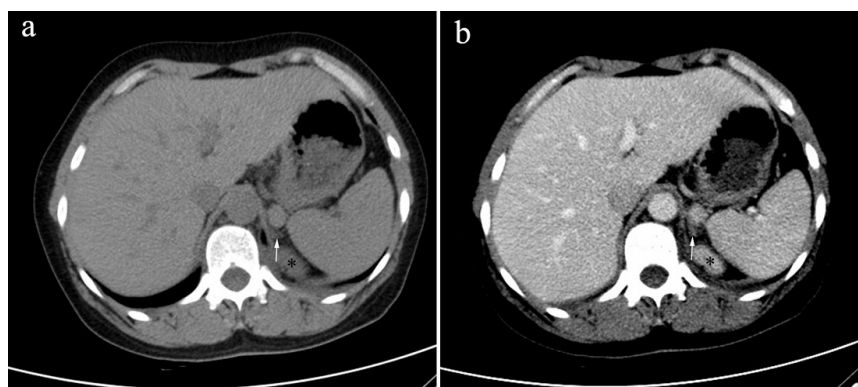


Figure 1: A contrast-enhanced CT scan revealed a solid tumor measuring 17 × 12 mm in the left adrenal gland (a, plain scan; b, contrast enhancement scan). Arrow indicates left adrenal gland; asterisk indicates the upper pole of left kidney.

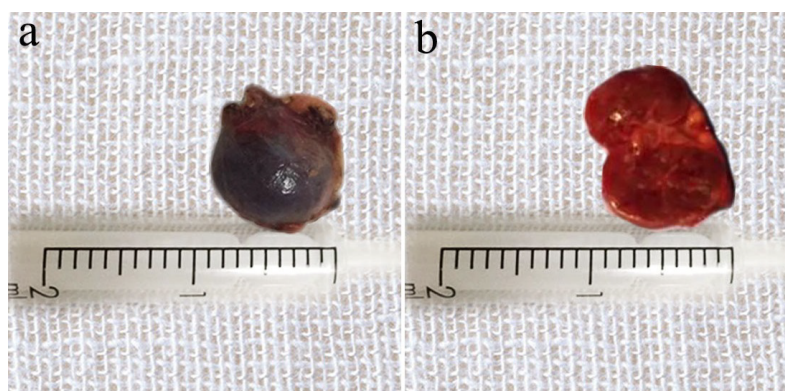


Figure 2: Gross appearance of the resected mass. The mass measured 17 × 21 mm (a) and the cut surface was red and solid.

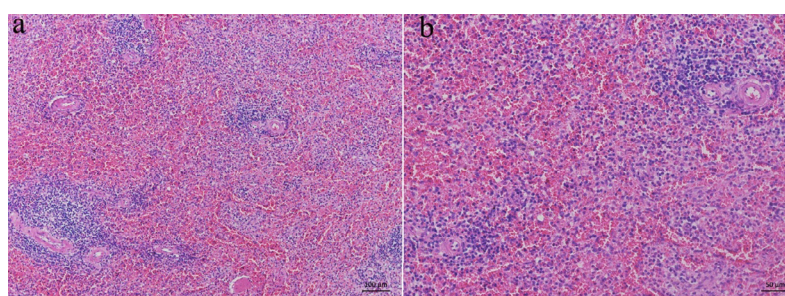


Figure 3: Histological findings. The resected mass consisted of White and red pulp of splenic tissue (a, H&E × 100; b, H&E × 200).

CT and MRI imaging, radionuclide imaging can be performed which is considered the most useful method in evaluating the accessory spleen [10].

The complications associated with accessory spleen include torsion, rupture, hemorrhage, and cyst formation which may need further surgical intervention. However, the complication is rare and accessory spleen is usually of no clinical significance in most patients. Therefore, a correct preoperative diagnosis is very important which can avoid unnecessary operation.

Conclusion

Retroperitoneal accessory spleen occurring adjacent to adrenal gland is a rare condition. It should be considered in the differential diagnosis

of adrenal mass especially when the endocrinological examinations are normal.

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