Case Report

Liver mass masquerading as adrenal space-occupying lesion: A rare presentation

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ABSTRACT

Adrenal pseudotumors have been described in the literature; however, liver mass masquerading as adrenal space occupying lesion is a rare entity. Here, we describe the case of a 40-year-old female who presented with right-sided abdominal pain for 1 year and was provisionally diagnosed as non-functioning adrenal adenoma after evaluation. She was planned for laparoscopic adrenalectomy. On laparoscopy, a mass arising from the liver was found. The procedure was abandoned and a computed tomography-guided tru-cut biopsy of liver mass was done, which showed the feature of benign liver tissue suggestive of hepatic adenoma. Later, she underwent an excision of the liver mass. Adrenal pseudotumor should always be kept in mind during surgery for any suspected adrenal mass.

Key words: Adrenal pseudotumor, Computed tomography-guided biopsy, Hepatic adenoma

Adrenal pseudotumors include upper pole renal mass, prominent splenic lobulations, fluid-filled gastric fundus, tortuous splenic vessels, pancreatic mass, and hepatic masses [1]. Cases of adrenal lesions mimicking pseudotumor include adrenal hemorrhage [2], calcifying fibrous pseudotumor [3], and retroperitoneal leiomyosarcoma [4].

We report a case of a liver mass that mimic an adrenal pseudotumor in a 40-year-old female who presented with complaints of abdominal pain and upon computed tomography (CT)-guided biopsy, a diagnosis of hepatic adenoma was made. Any surgeon planning to operate on an adrenal mass should keep in mind adrenal pseudotumors as a differential diagnosis for better patient care and to avoid any unwanted complications.

CASE REPORT

A 40-year-old female presented with a complaint of right upper abdominal pain for the past 1 year. The pain was insidious in onset, dull aching, intermittent, and relieved on medication. It was not associated with hematuria, dysuria, fever, anorexia, or weight loss.

The general and local examination was unremarkable except the patient was hypertensive 170/110 (incidental detected).

On investigation, blood hemoglobin was 10.9 g%, serum urea was 22 mg/dL, creatinine was 0.72 mg/dL, and liver function tests were within normal limits. On ultrasound, hyperechoic heterogeneous space-occupying lesion was seen in the right suprarenal region measuring 61.4 mm× 44.9 mm (Fig. 1). A triphasic CT scan with adrenal protocol showed a mass arising from the right adrenal gland (6.3× 4.4 cm) without calcification, showing enhancement at the periphery (Fig. 2). Mass exhibits a washout pattern on contrast administration (plain 26 HU, early arterial phase 38HU, early venous phase 37.6 HU, and delayed venous phase 82.8 HU). The absolute percent washout was 81%.

The endocrine evaluation showed serum dehydroepiandrosterone sulfate -136.16 mcg/dL (102–416), serum cortisol (8 am) 4.18mcg/dL (5–25), plasma aldosterone – 19 ng/dL (<31), plasma metanephrine – 28.6 pg/mL (12–60), 24-h urine metanephrine – 108.16 mcg (24–96), and 24-h urine nor metanephrine – 429 mcg (75–375).

A provisional diagnosis of non-functioning adrenal adenoma was made and planned for laparoscopic adrenalectomy. Laparoscopy revealed a globular mass noted at the upper pole of the right kidney adherent to the liver. Mass was seen completely separated from the adrenal mass which could not be dissected from the liver as no separate plane could be identified (Fig. 3). Procedure was abandoned with a plan of CT-guided biopsy. On CT-guided biopsy, histopathology came to be a feature of benign hepatic tissue suggestive of hepatic adenoma (Fig. 4). The liver mass was excised and later on, the biopsy confirmed hepatic adenoma.

On follow-up, the patient had been cured of her symptoms and awaiting repeat imaging after 1 year as advised by gastrosurgery.

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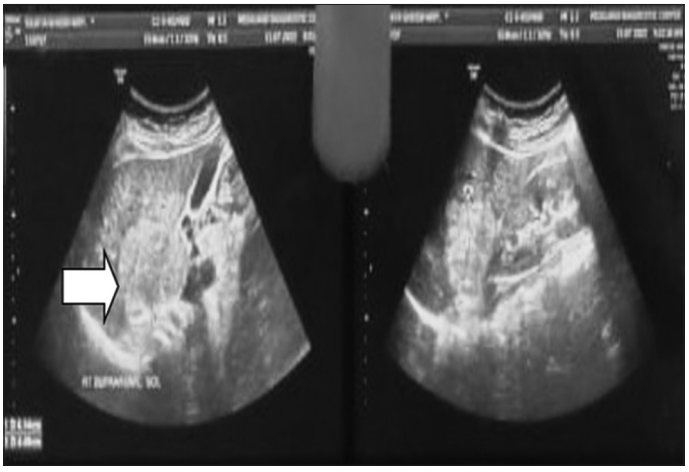

Figure 1: USG showing mass in supra renal region

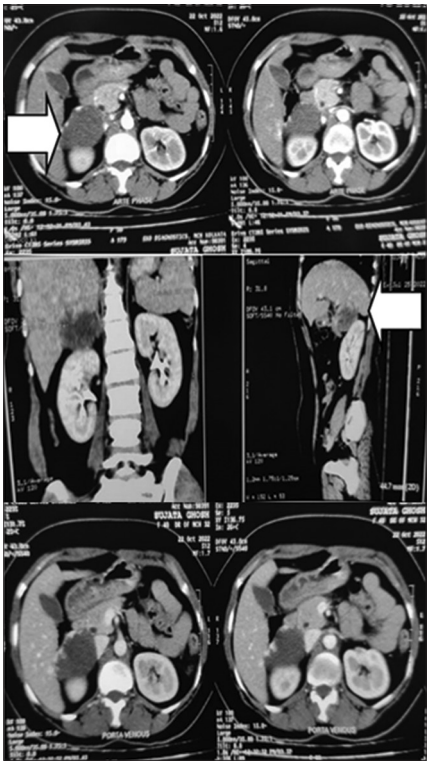

Figure 2: Triphasic computed tomography with adrenal proctocol

DISCUSSION

Masses arising in the adrenal gland may be simulated on CT by a number of anatomical structures and variations and by certain pathological conditions in adjacent organs. Numerous causes of adrenal pseudotumors had been previously described based on CT findings with normal anatomical structures being more common causes than extraadrenal neoplasms. A case of rare retroperitoneal tumor described by Harris *et al*. as a primary vascular leiomyosarcoma arising from the renal hilum, which mimicked an adrenal malignancy on CT and magnetic resonance imaging [4].

Although rare, it is more common to find incidental pheochromocytomas in the trauma setting than adrenal injuries that mimic pheochromocytomas. In one report, the patient

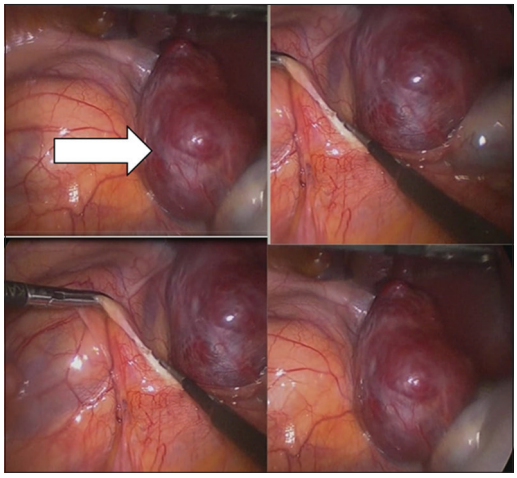

Figure 3: Laproscopic image of mass

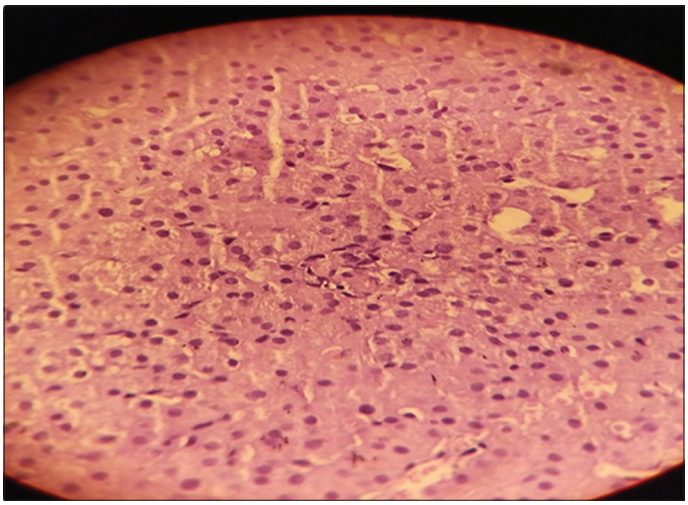

Figure 4: Biopsy showing feature of hepatic adenoma

suffered a fall from a ladder and presented to a trauma center with arterial hypertension. An intra-adrenal hematoma was discovered, presenting itself as a hormonally active pheochromocytoma [5]. Because of their consistent location and unusual shape and since they are usually surrounded by retroperitoneal fat, the adrenal glands are ideal organs for study by CT, a highly accurate method for detecting and excluding mass lesions that may render arteriography and venography unnecessary [6].

Adrenal cavernous hemangiomas are extremely rare. There are only a few cases have been reported in the literature [7]. Most of them are unilateral and appear commonly between the ages of 50 and 70 years, with a male-to-female ratio of 1:2. Most of the patients are asymptomatic and detected as incidentaloma. Some might present with abdominal pain or even hypovolemic shock due to spontaneous tumor rupture [8]. Adrenal cavernous hemangiomas are rare benign tumors that might be difficult to distinguish from adrenocortical carcinoma, due to the lack of specificity in preoperative studies. Surgical excision is recommended due to the risk of spontaneous tumor rupture and the difficulty in ruling out malignancy [9].

Certain anatomical structures and variations may produce CT images that might suggest adrenal pathology where none

actually exists [10-12]. In addition, large masses arising in the adjacent organs may be difficult to differentiate from adrenal tumors [6]. As compared to our case, hepatic adenoma mimicking hepatocellular carcinoma has been reported in some cases [13] but hepatic adenoma mimicking adrenal pseudotumor is rare.

CONCLUSION

During dealing with adrenal incidentaloma, adrenal pseudotumor should be kept in mind. In case of any doubt regarding diagnosis, a thorough discussion with the radiology and endocrine teams should be done. During surgery, we should stick to the surgical anatomy of that region to avoid inadvertent injury and complications.

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