

A case report on rare case of right adrenal angiomyolipoma with accelerated hypertension

Abstract

Right adrenal angiomyolipoma with accelerated hypertension is usually an incidentaloma and extremely rare finding with few cases reported in literature. We report a rare case of 45years old male patient presented with the typical symptoms of headache, neck pain since 4days and also giddiness. Right adrenal angiomyolipoma diagnosed by using histopathology, CT scan of abdomen, and USG scan of abdomen, main stay of management is surgery, but Preoperative and Postoperative control and monitoring of Blood Pressure is the utmost important due accelerated hypertension. Laparoscopic excision of adrenal tumor and adrenalectomy was done under general anesthesia. Postoperative recovery was uneventful and patient blood pressure became normal.

Keywords: adrenal angiomyolipoma, incidentaloma, adrenalectomy, accelerated hypertension

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Abbreviations: AMLs, angiomyolipomas; CBP, complete blood picture; LFTs, liver function tests; CT, computed tomography; USG, ultra sound scan of abdomen

Introduction

Angiomyolipomas (AMLs) are rare benign mesenchymal neoplasms of the adrenal glands with an incidence of 0.3-3%. This tumour poses a diagnostic difficulty to pathologists as it can resemble a variety of other tumours found in the adrenal gland.^{1,2} These tumors can occur in isolation or as a part of systemic syndromes. Isolated angiomyolipomas are asymptomatic and are found incidentally, accounting for 80% of the lesions. Most of them are sporadic and they are often solitary. They occur four times more frequently in women than in men, with a mean age at presentation of 40years.³ In this case we reported a rare case of right adrenal angiomyolipoma with accelerated hypertension although adrenal angiomyolipoma is not an unusual tumor but this case presented with tumor associated accelerated hypertension.

Case report

A 45yrs old male patient presented with chief complaints of headache, neck pain and burning micturition since 4days. He was fainted due to giddiness on the day of admission with the past history of hypertension since 6 years on irregular medication and regular alcoholic. On general examination he was afebrile, hypertensive (170/100mmHg), pulse rate was found to be normal. The patient was advised for complete blood picture (CBP), Random blood sugar, blood urea, serum creatinine, liver function tests (LFTs) are found to be normal and serum electrolytes (Table 1), 2D echo Doppler showed concentric left ventricular hypertrophy and Grade 1 diastolic dysfunction, Ultra sound scan of abdomen (USG) (Figure 1) and Computed tomography (CT)- abdomen (Figure 2) are found to be abnormal. On admission patient was treated with Olmesartan 20mg OD, Clonidine 100mg BD, Rosuvastatin 10mg BT, Nifedipine 5mg SOS, Aspirin+Clopidogrel (75/150mg) OD.

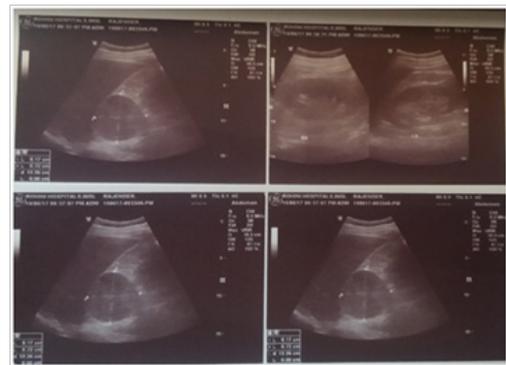


Figure 1 Ultrasound scan of abdomen (USG); showed well defined isoechoic lesion (6.17x6.72cm) near upper pole of right kidney

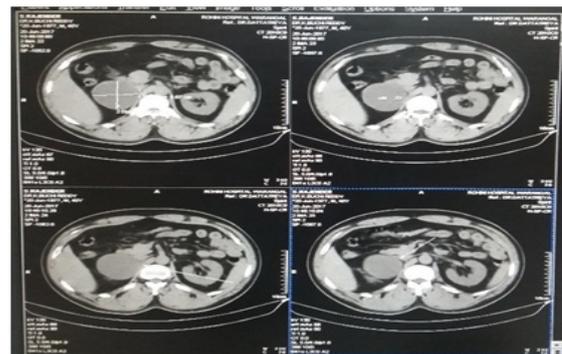


Figure 2 Computed tomography (CT)-abdomen report showed heterogeneously enhancing solid cystic lesion-likely arising from the right adrenal gland-could be degenerative adenoma (6.67x6.29cm).

On day-2, accelerated hypertension (170/100mmHg) and advised with plasma Metanephrine metabolites of epinephrine are found to normal i.e. 47.6pg/mL (normal range <65pg/ml) continued the same medications along with Cilnidipine 10mg OD. On day-3, blood pressure-150/110mmHg, pulse rate-82/min, serum sodium & chloride levels were reduced table-1 and the diagnosis was made to

be accelerated hypertension+hyponatremia+pheochromocytoma. Injection 3% Normal saline (3mg/100ml), Metoprolol 50mg was added and continued the same medications. On day-4, vitals were found to be normal, blood pressure 130/90 mmHg and advised with Cortisol estimation to evaluate the Cushing's syndrome but it was found to normal i.e. 11.15µg/dl (normal range:4.8-19.5µg/dl) same medications were continued. On day-5 Blood pressure was elevated again i.e. 170/100mmHg and Metoprolol was stopped and other medications were continued.

Table 1 Abnormal serum electrolyte levels on Day-3

Serum electrolyte levels	Day-1	Day-3
Sodium (mEq/L)	133	122↓
Potassium (mEq/L)	3.4	3.6
Chloride (mEq/L)	103	88 ↓

Patient was referred to higher center for surgery with the diagnosis of pheochromocytoma and accelerated hypertension with the discharge medications of Olmesartan 20mg OD, Clonidine 100mg BD, Rosuvastatin 10mg BT, Nifedipine 5mg SOS, Aspirin+Clopidogrel (75/150mg), OD, Cilnidipine 10mg OD, Metoprolol 50mg OD and. Inj. 3%NS 100ml IV TID.

The patient was admitted one day prior to surgery for preparation and assessment. All precautions were taken and a preparation for managing the preoperative hypertensive crisis. Laparoscopic excision of adrenal tumor and adrenalectomy was done under general anesthesia. The gross examination of right adrenalectomy specimen with attached peritoneum grey white globular mass of tissue measuring 5.5x5x3cm, external surface was smooth and attached peritoneum measuring 6.5cm in length. The microscopic examination shows well encapsulated tumor and tumor cells are arranged in sheets with perivascular distribution. Perivascular epithelioid cells, hypocellular and myxoid areas are seen. Adipose tissue was scattered in peripheral areas. Peripheral compressed adrenal tissue was seen. Mitosis/nuclear atypia/necrosis were not present (IHC with HMB-45).

Discussion

AML is an uncommon tumour, with an incidence of 0.13% in the general population and twice the incidence in females compared to males.⁴ AML typically presents with back/flank pain and hematuria. The more drastic presentation includes retroperitoneal haemorrhage from the tumour due to the friable blood vessels. The goal of treatment in such a case is to achieve hemostasis and prevent further complications. Options for treatment when the tumour is symptomatic include tumour excision, angioembolization, or cryotherapy. Active surveillance with serial ultrasounds is typically sufficient in patients with small lesions or who are asymptomatic.⁵ Retrospective studies show that of people with pheochromocytomas at time of autopsy, 61% had a history of hypertension and 91% had a history of "typical" symptoms, generally considered to be headaches, palpitations and sweating, but atypical symptoms include: abdominal pain, nausea, vomiting, dyspnea.⁶ In this case, patient admitted due to malignant or accelerated hypertension (170/100mmHg) with the typical symptoms of headache, neckpain since 4 days and also giddiness. There are two proposed mechanisms for neurological injury

resulting from a pheochromocytoma: hypertension and vasospasm. During excess catecholamine release, high blood pressure may overwhelm cerebrovascular autoregulation leading to hypertensive encephalopathy.

The second proposed mechanism suggests that catecholamine excess or sympathomimetic cause spasm of the cerebral arteries. These vascular spasms can cause infarction or transient impairment of circulation.^{7,8} In this case, both the mechanisms are not involved. Although pheochromocytoma is not one of the main causes of hypertension, it will be fatal if not controlled. Up to 52% of patients with angiomyolipomas larger than 4 cm were symptomatic and had an increased risk of spontaneous rupture and bleeding. In addition, it has been suggested that in large angiomyolipomas, the risk of malignancy increases with the size of the tumor, following surgery or selective arterial embolization.^{9,10} It can be difficult to distinguish angiomyolipomas from other tumors sharing fat densities. In most cases, angiomyolipomas are an incidental finding on imaging studies.¹¹ All precautions were taken and preparations for managing the preoperative hypertensive crisis. Laparoscopic excision of adrenal tumor and adrenalectomy was done under general anesthesia. Postoperative recovery was uneventful and patient blood pressure became normal.

Conclusion

We report a rare case of right adrenal angiomyolipoma with accelerated hypertension. Majorly accelerated hypertension was seen in patients with pheochromocytoma but in this case it was seen with adrenal angiomyolipoma. To date, a total of 5 cases of adrenal AMLs have been documented in the English literature and this is the 6th case it is diagnosed by using histopathology, CT scan of abdomen, and USG scan of abdomen, main stay of management is surgery, but Preoperative and Postoperative control and monitoring of Blood Pressure is the utmost important. Laparoscopic excision of adrenal tumor and adrenalectomy was done under general anesthesia. Postoperative recovery was uneventful and patient blood pressure became normal.

Acknowledgements

None.

Conflict of interest

The author declares no conflict of interest.

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