Incidental Detection of Adrenal Myelolipoma in a Middle Age Female Patient: A Case Report

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Abstract

Adrenal myelolipoma is a rare benign neoplastic lesion, mostly asymptomatic and unilateral. It originates from the adrenal gland and is made up of mature adipose tissues with the hematopoietic series. Adrenal lipomas are extremely rare and always benign and non-secreting. We describe a case of a hypertensive female patient who presented with abdominal pain. Physical examination and investigations were unremarkable. Ultrasound abdomen showed a hyperechoic mass on the left side of the abdomen. Contrast-enhanced abdomen illustrated a large heterogeneous mix density lesion in the left suprarenal gland showing enhancing soft tissue and macroscopic fat components suggesting adrenal myelolipoma. Although the patient did not have any related complications but owing to the large size of the tumor, surgical resection was planned which was later done successfully.

Keywords: *Myelolipoma, adrenal gland, lipoma, neoplastic lesion.*

INTRODUCTION

Adrenal myelolipomas (AMLs) are rare, benign, non-secreting neoplastic lesions made up of adipose and hematopoietic tissues [1]. They are reported one in 500-1250 autopsies [2]. Nevertheless, the precise prevalence of this rare clinically manifested neoplasm is quite difficult to determine due to the high like hood of its nonfunctional status [2]. The majority AMLs do not have any symptoms and are discovered incidentally. They ranked second most common adrenal incidentaloma, constituting 6-16% of all adrenal incidentaloma [1, 2]. Radiologically their features are quite specific and depict the diagnosis quite accurately in 90% of the cases [3]. Due to advancements in noninvasive radiological investigations and their increased usage, the detection of adrenal Incidentaloma has increased in recent times [4]. Both genders are equally reported to have this adrenal neoplasm with peak incidents between the 5th and 7th decade of life [5]. Mostly adrenal myelolipomas are small lesions with a diameter of less than 4cm [6]. Myelolipoma is termed 'giant' if the greatest diameter is > 10 cm (100mm) [7]. Giant AMLs are quite exceptional and rarely reported. Following surgical resection of such neoplasms, recurrence is extremely uncommon. An image-guided fine needle biopsy is warranted if the diagnosis is doubtful in imaging studies.

We are reporting an extremely rare case of a giant AML on the left side and adrenal lipoma on the right side in a female patient.

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CARE REPORT

Female aged 52, diagnosed case of hypertension, presented with complaints of diarrhea and abdominal pain. Clinically she was overweight with a body mass index of 28.8, a pulse of 85 bpm, and blood pressure recorded at 130/81 mmHg. Her general physical and systemic examination was grossly normal. Ultrasound abdomen was done for evaluation of abdominal pain, which showed a hyperechoic ill-defined mass on the left side in between the spleen and left kidney without any vascularity. Contrast-enhanced computed tomography scan of the abdomen was performed which illustrated a 136*103*146mm well-circumscribed heterogeneously enhancing mix density lesion in the left suprarenal space involving the left adrenal gland, showing fat

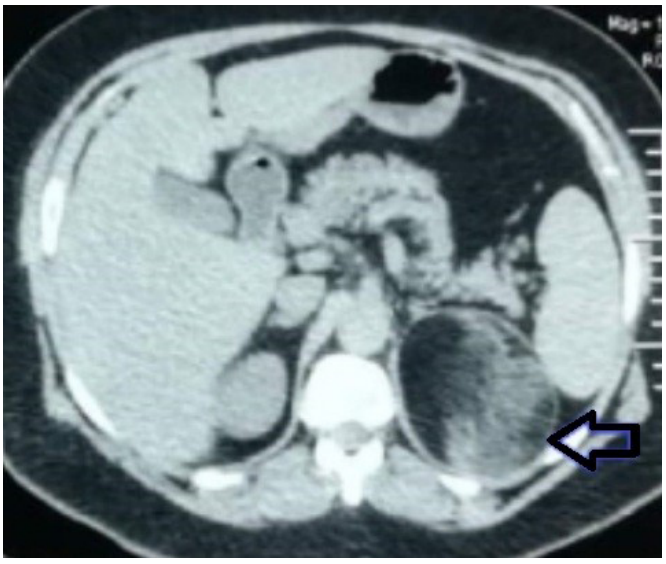

Fig. (1): Abdominal CT scan showing a large, rounded, well-circumscribed mix density mass of left adrenal gland suggesting adrenal myelolipoma.

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and soft tissue components, displacing the left kidney downward and was associated with mild surrounding fat stranding, these findings are consistent with adrenal myelolipoma. Another small fat density mass was noted in the right adrenal gland likely adrenal lipoma. All baseline investigations were within the normal range. To check the secretory nature of the tumor, plasma catecholamine levels were checked and reported to be in the normal range. Furthermore, 24 hours of urinary catecholamine levels and serum cortisol were also checked and all were reported normal. The rest of the endocrine workup was also within normal parameters. The patient was planned for exploratory laparotomy and a left adrenalectomy was performed. Grossly excised mass was round and encapsulated with smooth borders. Histopathological examination revealed a characteristic mixture of adipose tissues with myeloid cells without any evidence of malignancy. The patient made an uneventful recovery postoperatively.

DISCUSSION

Adrenal myelolipomas are rare benign tumors composed of mature adipose tissue and a variable amount of hematopoietic elements. Mostly these are small lesions and asymptomatic. The majority of lesions occur unilaterally on the right side but up to 12% of cases are bilateral [8]. Myelolipomas grow comparatively slowly and their size varies from several millimeters to more than 30 cm. Those with a size of more than 10cm diameter are termed giant myelolipomas, and these large tumor cause nonspecific symptoms which include abdominal pain, constipation, vomiting, hematuria, or Renovascular hypertension due to intratumorally bleeding or compression of peritumoral tissue. Acute hemorrhage is rare, but if occurs, may cause more pressing complications, and it may present as epigastria discomfort, or flank pain and clinical symptoms like nausea, vomiting, hypotension, and anemia may occur as well [9, 10].

Many theories exist regarding the histogenesis and course of these tumors. The most recognized theory addresses adrenocortical cell metaplasia in response to chronic stimuli, such as necrosis, inflammation, infection, or maybe stress [1, 2, 11]. The incidence of tumors at advanced age also indicates underlying chronic stimulation which can cause benign as well as malignant neoplasms, this theory is supported by postmortem findings of myelolipomas among patients who died after suffering from chronic systemic diseases. Adrenal myelolipoma is sometimes found to be associated with Cushing's disease, hypertension, obesity, and diabetes mellitus. Many experts consider an unbalanced diet and stressful lifestyle as an underlying etiological factor [12]. The predominance of tumor occurrence on the right side is not understood yet. As per recent theory regarding etiology, myelolipoma is derived from the metaplastic transformation of reticuloendothelial cells from adrenal capillaries. Diagnosis of myelofibroma is mostly done accurately on computerized tomography (CT) scan which illustrates the fatty contingent [2, 3]. Differential diagnoses include angiomyolipoma of the kidney, lipoma, and liposarcoma [3]. In addition to a CT scan, magnetic resonance imaging allows improved visualization of the tumor and aids in confirmation of the benign character of this tumor [3].

There is no consensus on the treatment of these tumors. It is suggested that symptomatic lesions or lesions with a size of more than 7 cm should be surgically resected as they may rupture and cause bleeding leading to cardiovascular shock [1, 13]. Recurrence is extremely rare. Another indication for surgery is uncertainty in diagnosis on noninvasive imaging.

In our case, the patient had abdominal pain and radiological studies revealed a giant myelolipoma. Moreover, adrenal lipoma was also detected on a CT scan on the contralateral side, such bilateral adrenal lesions are extremely rare in literature. The patient also had hypertension but the hormonal profile was unremarkable. Myelolipoma in our patient was detected on the left side in contrast to most reported myelolipomas which were detected on the right side.

CONCLUSION

Adrenal myelolipomas are asymptomatic tumors that have been reported rarely in literature, however recent imaging advancements have increased their detection in recent times. Their diagnosis is mostly made on CT scans which demonstrate their characteristic findings. The treatment is surgical removal which is indicated based on their size (>7cm), compressive symptoms, hormone secretory status, and hemorrhagic complications.

CONSENT FOR PUBLICATION

Written informed consent was taken from the patient.

CONFLICT OF INTEREST

There is no conflict of interest among the authors.

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Declared none.

AUTHORS CONTRIBUTION

Muhammad Nadeem Ahmed Khan: Data curation and Visualization writing of final manuscript, Shaheena Begum: Data curation and Visualization, writing of initial draft

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