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Case Report

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Adrenal Myelolipoma. An Interesting Case Report

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ABSTRACT

Introduction: Adrenal myelolipoma is a rare urological lesion, benign in nature, and composed of a variable mixture of mature adipose and hematopoietic elements. The true incidence of these tumours is not well known. Despite their benign biology, these lesions can be a cause of dilemma for a urologist; we describe a case of incidental diagnosis of adrenal myelolipoma in a patient who presented with upper abdominal pain and reviews the literature on its aetiology, diagnosis, and management. Finally, the optimal treatment for myelolipoma depends on the size and symptoms of the mass and the needs of the patient.

Case Report: Here we present a case of a 60-year-old female who presented with chronic left-sided flank pain and right upper abdomen that had been worsening over the past three weeks.

Conclusion: Myelolipoma is a rare, non-functional, benign tumour. Patients having high blood pressure don't respond well to antihypertensive. They respond effectively to the medication after the removal of the tumour. So we recommend that all patients with myelolipoma not responding well to non-surgical management should plan for surgery for a better outcome.

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Introduction

Adrenal myelolipoma is a rare urological lesion, benign in nature, and composed of a variable mixture of mature adipose and hematopoietic elements. It was initially described by Gierke in 1905 and subsequently termed as formations myelolipomatoses by Oberling in 1929 [1]. In the past, these lesions used to be primarily detected at autopsy or in conditions where massive growth or an alteration in the hormonal production led to clinical presentation. However, in recent times, as a result of the widespread use of non-invasive cross-sectional imaging modalities such as ultrasonography (US), computed tomography (CT) and magnetic resonance imaging (MRI), incidental detection is more common [2]. The tumour appears to affect men and women equally and is most commonly found between the fifth and the seventh decade of life [2]. Accounting for 3–5% of all primary tumours of the adrenals, the true incidence of these tumours is not known, although it is thought to be 0.08%–0.4%, with increased incidence noted in the later decades of life [3]. The majority of these tumours are unilateral, small, and asymptomatic although some bilateral myelolipomas have been described [2]. They are generally non-secreting in nature, and only one case of secreting myelolipoma has been reported so far [3]. These lesions are often smaller than 4 cm in diameter, and the largest reported in the literature was 31 × 24.5 × 11.5 cm and weighed 6 kg [3]. After surgical resection, these lesions tend to not recur. Despite their benign biology, these lesions can be a cause of dilemma for a urologist; we describe a case of incidental diagnosis of adrenal myelolipoma in a patient who presented with upper abdominal pain and reviews the literature on its aetiology, diagnosis, and management. Finally, the optimal treatment for myelolipoma depends on the size and symptoms of the mass and the needs of the patient.

Case Report

A 60-year-old female presented to the surgical OPD of J N Medical College, Aligarh Muslim University with chronic left-sided flank pain and right upper abdomen, that had been worsening over the past three weeks. The pain radiated to the back and was described as usually achy but the sensation was sharp and piercing and aggravated by movements. She was symptomatic of cholelithiasis with episodes of right-sided upper abdominal pain radiating to the back.

Physical Examination

The lady was anaemic with a haemoglobin of 10.1 gm%. Her total leucocyte count was 6800/cc with differential leucocyte count (Neutrophils 72%, Lymphocyte 22%). Her renal function was within normal limits (BUN 22 mg%, S.Cr 1.1 mg%). She had a pulse rate of 84/min, her blood pressure was fluctuating ranging from 168/90 mmHg to 240/104 mm Hg, and the temperature was 99.2 Fahrenheit. Her BMI was 26.6 kg/m2. The abdomen was lax, soft and multiple striae were present. She never suffered from jaundice. The abdomen was soft and non-tender on palpation. There was no costo-vertebral angle tenderness. The bowel sounds were normal.

Management

CECT whole abdomen was suggestive of a large minimally enhancing fat attenuation lesion in the left suprarenal location of size 5.6×5.1×4.8 cm, arising from the lateral limb of the left adrenal gland and abutting upper pole of the left kidney, left adrenal myelolipoma, with cholelithiasis with splenomegaly.

MRI-abdomen was suggestive of a large (5.5×5.3×5.2 cm) well-defined rounded mildly enhancing altered signal intensity mass lesion in the left suprarenal region arising from the lateral limb of the left adrenal gland, with the fatty component. It was abutting the upper pole of the left kidney with maintained intervening fat planes with no compression of the upper pole of the left kidney. There was no evidence of extension of mass into the renal vein. The findings were suggestive of adrenal myelolipoma. 24-hour urinary metanephrine was 21.76 mcg/24 hours (reference range 350 mcg/24 hours), and Urinary (VMA) Vanillyl-Mandelic-Acid was 3 mg/24 hours (Normal value 2-7 mg /24 hours). The patient was not responding to the antihypertensive medication and was having blood pressure which was fluctuating from 168/90 mm Hg to 240/104 mm Hg. She was scheduled for left adrenalectomy and cholecystectomy. The patient was explored under general anaesthesia with a liberal midline incision. Medialisation of the left colon along with identification of the tail of the pancreas and spleen was done. Retro-peritoneum was reached and left adrenal gland was explored and ligation of the adrenal vein was done. The tumour was 8x7x6 cm in size with 90 grams in weight. The tumour was excised and sent for histopathology. The blood pressure immediately settled after the removal of the tumour. A drain was placed in the left upper quadrant and the skin was closed.

The patient was ambulating on post-op day one without assistance, tolerating a normal diet. Her pain had subsided, and her blood pressure was settled and was discharged after 10 days postoperatively without any untoward incident. She has been on regular follow-ups since then.

Histopathology

It shows mature adipocytes along with islands/foci of hematopoietic tissue in between, focal adrenal tissue is also seen (myelolipoma of the adrenal gland)

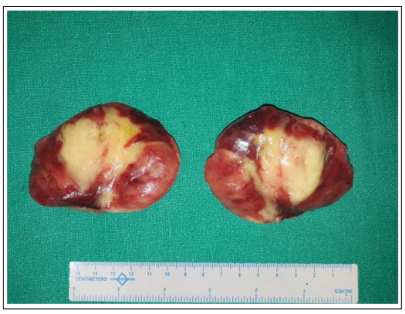

Figure 1: Gross Excised Cut Section Left Adrenal Gland in Toto

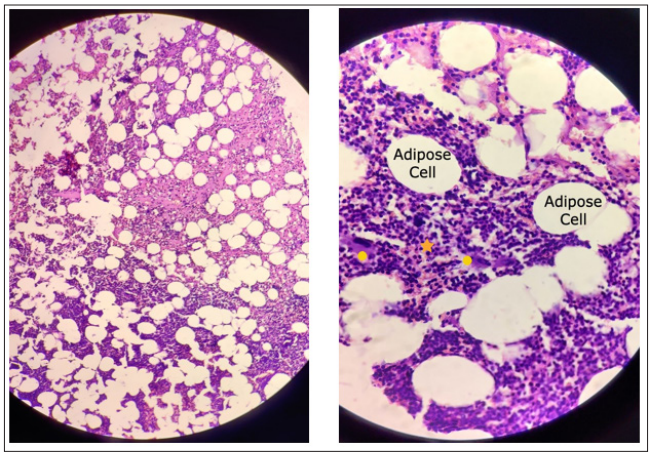

Figure 2A **Figure 2B**

Figure 2A: Low power Histopathologic picture of myelolipoma composed of mature fat cells mixed with hematopoietic elements. **Figure 2B:** Magnified view {showing megakaryocytes (round circle) and hematopoietic cells (star)}

Discussion and Conclusion

Adrenal myelolipoma is a rare benign tumour, containing adipose and hematopoietic tissues. Often confused with its malignant counterpart. Asymptomatic, unilateral right-sided, incidentally detected size often <4 cm giant extremely rare, 10% of the reported case[4]. Diagnosis is often done based on autopsy or imaging findings for reasons unrelated to adrenal gland diseases hence called “Incidentalomas". The most widely accepted theory for the development of adrenal myelolipoma is adreno-cortical cell metaplasia in response to stimuli like infection, inflammation, stress, and necrosis [5]. For diagnosis, CECT is more sensitive than MRI or USG [6]. The differential diagnosis should be fat-containing retroperitoneal mass including retroperitoneal lipoma, liposarcoma and renal angiomyolipoma [7]. Modified Makuuchi incision should be given when the size is more than 10 cm and suspecting severe adhesions to surroundings [8].

Myelolipoma is a rare, non-functional, benign tumour that predominantly occurs in the adrenal gland. Most of the patients complain of pain in the left upper abdomen radiating to the back. Patients having high blood pressure don't respond well to antihypertensive. They respond effectively to the medication after the removal of the tumour. So we recommend that all patients with myelolipoma should plan for surgery for better outcomes.

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