Adrenal Myelolipoma

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Abstract

Adrenal myelolipoma is a rare, benign, usually unilateral, endocrinologically inactive tumor composed of mainly mature adipose tissue and hematopoietic elements that resemble bone marrow. It almost always occurs within adrenal gland but they have been reported in other locations. Most patients are asymptomatic and the lesion is discovered incidentally. We report a case of 35 years old lady who had just come for regular check up with vague abdominal discomfort on right side. Radiological investigations showed a large right sided adrenal myelolipoma. Image guided fine needle aspiration cytology was done, which confirmed the diagnosis.

Keywords: Adrenal myelolipoma, adrenal gland

Introduction

In 1905,Gierke first described an adrenal myelolipoma and in 1922, the term adrenal myelolipoma was first used by Oberling [1]. It is a rare finding with a frequency of between 0.08-0.2 % [2]. Most adrenal myelolipomas are small (<5cm) and they are asymptomatic . Occasionally acute hemorrhage within these myelolipomas can result in the sudden onset of pain and hypotension. Myelolipomas that spontaneously hemorrhage are usually > 10 cm . No malignant potential is associated with these lesions [3,4]. Ultrasound(US) ,computed tomography(CT) imaging help to demonstrate the characteristic imaging features of these tumors , making surgical resection unnecessary in majority of the cases [5].

Case Report

A 38 year old lady came with a complaint of vague abdominal discomfort on right side of abdomen. Physical examination and hematological parameters were normal. US(Ultrasound) showed a well defined homogenously hyperechoic mass measuring approximately 9.3 x4.9cm in size at the superior pole of right kidney. Right kidney and adjacent liver parenchyma were normal

CT (computed tomography) scan of the abdomen was done to further evaluate the mass which revealed a well defined, nonenhancing mass measuring approximately 9.3x 5x 4.2 cm in right suprarenal region. The mass was predominantly hypodense with fat attenuation values(approx -36 HU). Right kidney showed normal enhancement .No infiltration of mass into the superior pole of kidney or adjacent liver parenchyma.Image guided fine needle aspiration confirmed the diagnosis which showed presence of mature fat cells and megakaryocytes which is characteristics of adrenal myelolipoma.

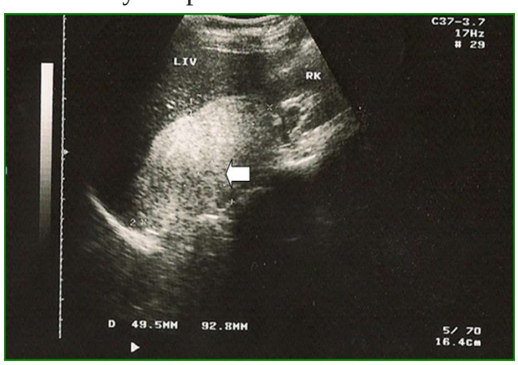

Figure1: Ultrasound showing a large well defined echogenic right suprarenal mass(white arrow) . LIV=liver, RK=right kidney.

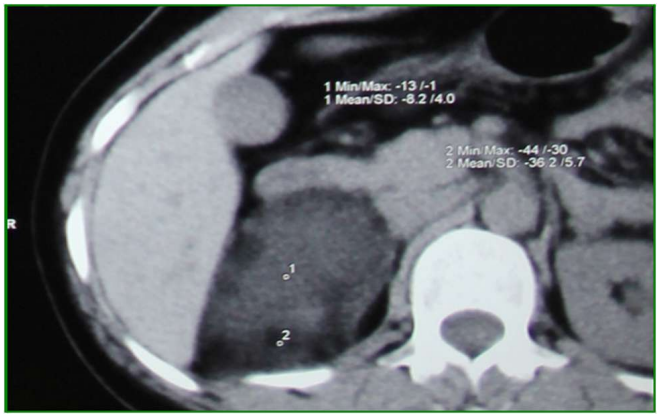

Figure 2 : Noncontrast computed tomography scan showing a large hypodense mass in the right suprarenal region with fat attenuation HU values.

Discussion

The etiology and pathogenesis of this rare, benign tumor is unknown , although this is thought to arise in the zona fasiculata of the adrenal cortex. Men and women are equally affected with tumors most often occurring in the fifth or sixth decade of life [6]. Although tumors can range in size from microscopic to 30 cm,most tumors are less than 5 cm in diameter [7]. If these tumors undergo hemorrhage or necrosis or compress surrounding structures, symptoms may occur.

Imaging features of myelolipoma depend upon the varying proportion of fat, myeloid element, hemorrhage and calcification or ossification present.If a significant amount of fat is present these tumors are typically seen sonographically as an echogenic mass, when small they may be difficult to differentiate from the adjacent echogenic retroperitoneal fat. CT(computed tomography) is very sensitive for the diagnosis of adrenal myelolipomas and should be performed to confirm the presence of macroscopic fat suspected in ultrasound. At MR (magnetic resonance) imaging myelolipomas demonstrate heterogenous foci of fat having hyperintense signal on non-fat suppression T1-W images and lose signal intensity with fat suppression images.

The differential diagnosis of a suprarenal fatty mass includes myelolipoma, renal angiomyelolipoma, lipoma, retroperitoneal liposarcoma , lymphangioma and teratoma. When large or atypical fine needle aspiration is necessary to establish the diagnosis [8].

Conclusion

Imaging modalities like ultrasound and computed tomography(CT) can greatly facilitate the diagnosis of adrenal myelolipoma. Image guided biopsy can be performed in tumors that are atypical and large . Surgical exploration should be reserved for symptomatic patients or with an uncertain diagnosis

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