International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

Adrenal Myelolipoma a Rare Benign Neoplasm and its Imaging

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Abstract: ***Myelolipoma is a rare benign neoplasm which tends to predominantly occurs in adrenal gland. Most commonly it is asymptomatic smaller in size and rarely it reaches larger in size and may cause chronic abdominal pain. Histologically myelolipoma consists of mature fat elements inter spread with scattered hematopoietic elements To prevent the complications and for accurate diagnosis of the same surgical excision is the choice of management. A 35 year old male patient presents with complaints of chronic right flank pain and abdominal lump since 6 months and with acute increase in pain since 3 days. On examination patient has abdominal distension, tenderness, tachycardia and Blood pressure measures 1000\60mm hg. He was advised to undergo abdominal USG and CECT abdomen pelvis was performed for complete workup. Then the surgical team decided to take him up for surgery for both therapeutic and diagnostic purpose. For this patient in this scenario where myelolipoma is complicated by hemorrhage sonographical picture will be altered and it becomes more echogenic in echotexture as compared to the fat content hence CT is much more beneficial if it is complicated by hemorrhage. MRI use depends on the amount of fat content in myelolipoma.***

1. Introduction

Adrenal myelolipoma is a rare benign neoplasm of adrenal gland which is previously detected in autopsy. But nowdays it incidence and detection is increased because of use of imaging and it is incidentally detected on ultrasound. There is no gender predilection[(1)]. Mostly these lesions are small (<4cm) and asymptomatic but if grows more than 6 cm patient may suffer with chronic abdominal pain and larger lesions are more likely to cause complications such as necrosis, adhesions to surrounding structures and causing pressure necrosis of adjacent organs and more dreaded complication bleeding. Hence if symptomatic, size is larger than 6 cm and atypical appearance with less amount of fat content it is better to opt for surgical treatment.

Its histological appearance is mature fat elements interspread with hematopoietic elements. Sometimes it also contains calcification and bone components.

Clinical spectrum of myelolipoma occurs in 4 different forms which include isolated adrenal myelolipoma, adrenal myelolipoma with hemorrhage, extra adrenal myelolipoma and myelolipoma associated with other adrenal disease conditions.

Though myelolipoma is a non secreting tumor it may be associated with cushings syndrome, conns syndrome and congenital adrenal hyperplasia[(1)] .

On ultrasound it appearance is well defined heterogenous echotexture lesion appearance depending upon the type of tissue in it[(2)]generally shows echogenic fat component with hypoechoic necrotic component and sometimes shows pseudocapsule. But ultrasound appearance gets altered if the lesion shows complications such as hemorrhage. On CECT Abdomen it has characteristic appearance which shows large amount of fat density areas interspread in between higher attenuation tissue. On MRI higher intensity signals are noted for fat areas in T1 imaging and higher intensities on T2 if marrow elements are noted[(3)] within the lesion so appearance of MRI changes hence CT is the better if any complications occur.

Clinical History

A 35 year old patient with chronic abdominal pain since 6 months with recent acute onset of increase in pain and abdominal distension. The patient is obese and hypertensive. No history of any past operations and hospital admissions. On examination patient has tenderness in right flank region and increase in abdominal girth noted. Vitals show tachycardia and hypotension. Suspecting renal pathology patient was referred for Ultrasound.

2. Radiological Findings

Ultrasound revealed 10x9 cm2 heterogenous well defined echotexture lesion showing both hypoechoic(s/o hemorrhage and necrotic component) and predominantly echogenic component(s\o fat) noted adjacent to upper mid pole of right kidney. Perirenal fats tranding and perirenal fluid with echoes noted adjacent to lower pole. With probable diagnosis of myelolipoma the patient is adviced to undergo CECT which showed well defined (17x13x12 cm3) soft tissue lesion with hyperdense components (s/o hemorrhage) and fat density components noted in right supra renal region. Right suprarenal gland not seen separately from above mentioned lesion.

3. Discussion

Previously before the advent of radiological investigations these myelolipomas used to be the rare autopsy findings and these days with the use of imaging in a widespread manner the incidence of these have increased to a greater extent. Most of these appear calm and asymptomatic but if they increase upto a large size they may lead to complications such as necrosis and hemorrhage and chronic pain to the patient. In theory there are less incidences of the myelolipomas with itscomplications. In this case we have discussed about a 35 year old male patient with hemorrhage from myelolipoma . there is no gender predilection for these tumors and being benign they have nearly zero tendency of recurrence after removal and it had maintained fat planes with right kidney and surrounding structures.

This patient was advised for a laparotomy removal as because of its large size and tendency to bleed laproscopy

was not preferred. After surgery the patient was hemodynamically stabilized and followed up with no fresh complaints and with complete resolution of previous complaints.

The hemorrhage and necrosis in myelolipoma leads to a heterogenous appearance which leads to confusion between it and liposarcoma. In such incidences a core needle biopsy can solve the confusion.

Though all these radiological appearnces lead to a diagnosis, definitive diagnosis is done only after histopathological examination of post surgical specimen.

All the incidentalomas need not be operated. Small (<4 cm) can be managed by followup scans and can be managed conservatively. Surgery is indicated if the myelolipoma is growing large and tends to cause complications and if the patient is anxious and symptomatic.

Radiological role is good in this case as US CT MRI can detect and help in diagnosing this condition though CT is best among them and it is choice of investigation when myelolipoma comes along with complications.

References

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Case

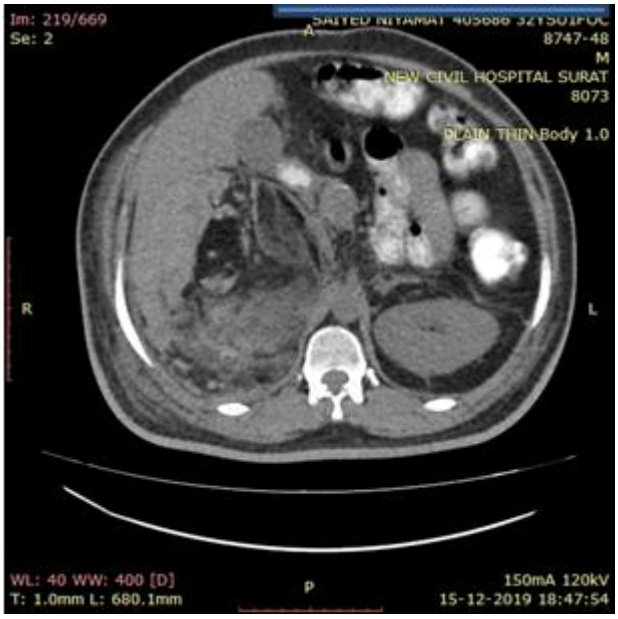

Figure 1: Plain Scan

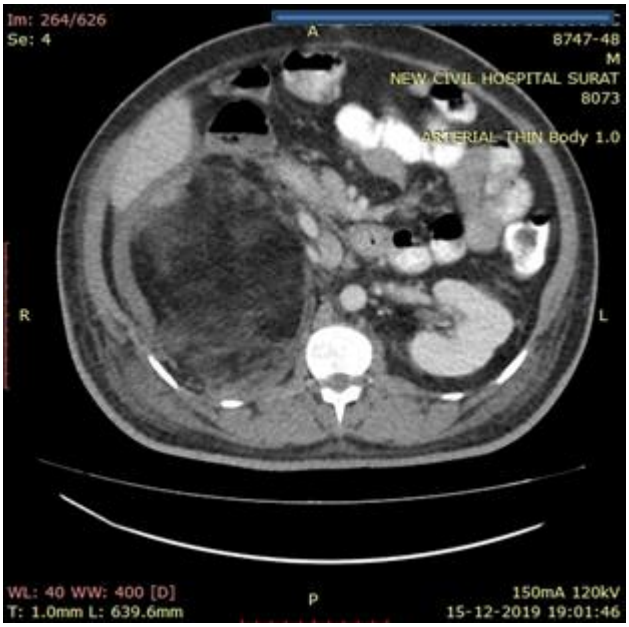

Figure 2: Arterial Window

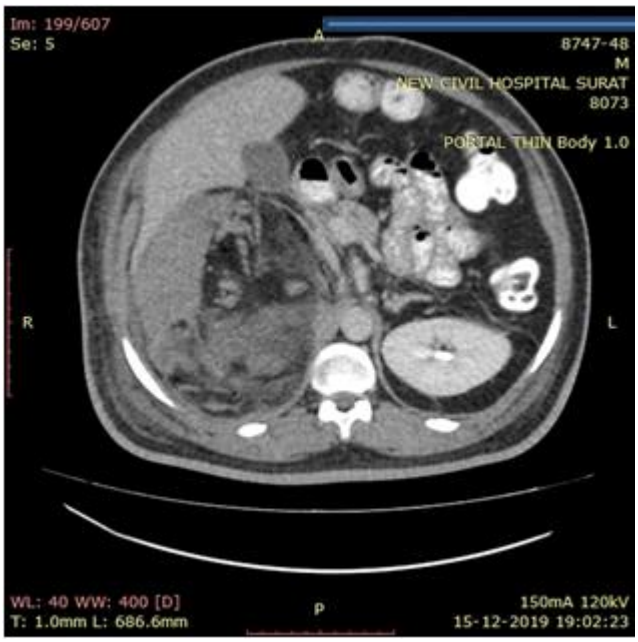

Figure 3: Portal Phase

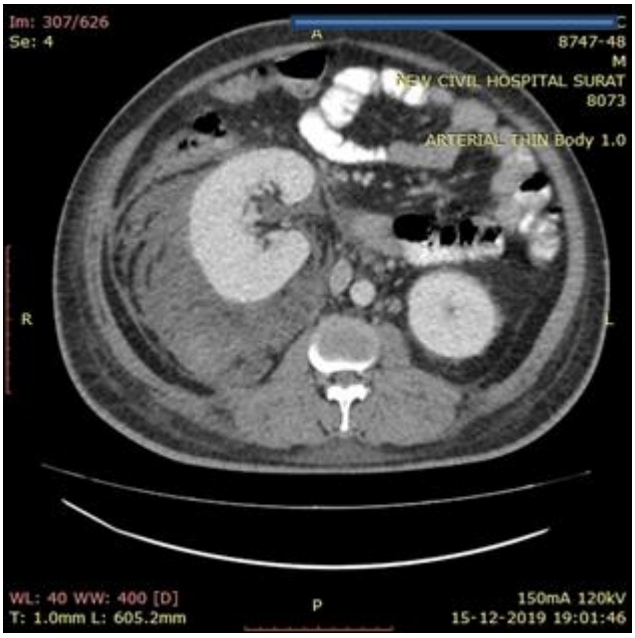

Figure 4: Arterial Phase Showing Displaced Right Kidney and Perinephric Hematoma