

eISSN:2320-3137

# **CASE REPORT**

# **RENALTUBERCULOSISCAUSEOFRENALREPLACEMENT LIPOMATOSIS : A RARE ASSOCIATION**

# DR ANAND AARTI<sup>1</sup>, DR CHANDAK PRIYA<sup>2</sup>,DR SURESH PARVATHY<sup>3</sup>

1. PROF AND HOD, DEPARTMENT OF RADIODIAGNOSIS, GOVERNMENT MEDICAL COLLEGE AND HOSPITAL ,NAGPUR, MAHARASHTRA, INDIA.

2. SENIOR RESIDENT, DEPARTMENT OF RADIODIAGNOSIS, GOVERNMENT MEDICAL COLLEGE AND HOSPITAL ,NAGPUR, MAHARASHTRA, INDIA.

3. JUNIOR RESIDENT, DEPARTMENT OF RADIODIAGNOSIS, GOVERNMENT MEDICAL COLLEGE AND HOSPITAL ,NAGPUR, MAHARASHTRA, INDIA.

Corresponding author: DR AARTI ANAND, 165 Shivaji Nagar, Nagpur, Maharashtra, INDIA. Pin:440010

Publication history: Received on 20/09/2017, Published online 29/09/2017

#### ABSTRACT:

Renal replacement lipomatosis is an uncommon, chronic debilitating disorder, usually occurring unilaterally. There is marked proliferation of fatty tissue within the renal sinus, hilum and peri-renal space, usually secondary to destruction or atrophy of renal parenchyma due to longstanding inflammation. This condition most commonly follows calculus disease. However, associations with conditions such as aging, renal tuberculosis and post renal transplantation have also been reported. (5). Here we presenting a case of renal replacement lipomatosis with co existing renal tuberculosis .Only one case has been reported of such association (1).

Keywords- Renal replacement lipomatosis, tuberculosis

#### **INTRODUCTION**

A 70 year old female patient came with complains of recurrent episodes pain in right flank . On examination ,vague lump was palpable in the region . Radiograph revealed vague lucency in right renal area. The normal renal shadow was not visible .On further evaluation , Ultrasound revealed hyperechoic mass in renal fossa with hyperechoic focus with distal shadowing in proximal ureter representing ureteric calculi and dilation of upper ureter.

Contrast enhanced computed tomography revealed extensive fatty infiltration of right kidney with atrophy of renal parenchyma with paper thin cortex .This fatty infiltration was seen extending along the ureter and along peri-nephric space.(Fig-1) Multiple calculi were noted in mid-ureter. Right renal artery & renal vein were narrow in caliber .There was associated small collection adjacent to ureter. (Fig-2.1,2.2)Right kidney was found to be non excretory .

# INTERNATIONAL JOURNAL OF MEDICAL AND APPLIED SCIENCES CISSN:2320-3137 Barthjournals Publisher www.carthjournals.in

Patient was operated and right sided nephrectomy was done (Fig 3).On histopathology, there was replacement of renal tissue by fibro-fatty tissue with foci of necrosis and multiple granulomas. There was mixed inflammatory infiltrate with lymphoid follicle formation and with areas of fibrosis.(Fig 4). However the specimen AFB was negative which can occur in 45% of cases.



Figure 1.1 &1.2 :Contrast enhanced CT shows enlargement and extensive fatty infiltration of right kidney and perinephric space with atrophy of renal parenchyma



Figure 2.1 &2.2 : multiple calculi noted in ureter with extension of fat along right ureter



eISSN:2320-3137

www.earthjournals.in



Figure 3:Gross operative specimen of nephrectomy shows fatty replacement of kidney.



Figure 4.1Section showing residual renal tubules, focal inflammation and thick walled blood vesselsFigure4.2Section showing mature adipose

Volume 6, Issue 2, 2017



eISSN:2320-3137

# **DISCUSSION :**

Fatty proliferation in kidney represents a spectrum of disorders ranging from mild lipomatosis in the renal sinus with underlying normal parenchyma (renal sinus lipomatosis) to a severe variety with lipomatosis involving renal sinus, hilum and perinephric region with underlying atrophic parenchyma (renal replacement lipomatosis). The presence of atrophic renal parenchyma distinguishes this condition from other causes of fibro-fatty proliferation in and around the kidney, as in obesity, Cushing's disease or excessive corticosteroid therapy and idiopathic. (7) The condition is resultant of chronic infective process, commonly as a consequence of renal /ureteric calculi. It is found in associated with renal tuberculosis. Patient will usually have complaints like fever, pain, flank mass, haematuria etc.

The shape of kidney is maintained and different degrees of hydronephrosis might be associated Contrary to other neoplastic fat containing lesions like angiomyolipomaswhich develop in the renal parenchyma, here the fat is proliferating in the normal renal sinus and occupying the adjacent space to atrophied renal parenchyma.

Radiography may show renal calculus with surrounding lucent area replacing the normal fluid density of kidney. There may be associated mass effect. Intravenous pyelography is often not useful as the kidney is mostly non-excretory (3). IVP can be useful in assessing excretion of the contralateral kidney for planning of nephrectomy .Ultrasound will show hyperechoic mass in renal fossa with hypoechoic rim of preserved renal parenchyma. Associated renal calculus may be seen .Computed tomography accurately demonstrates the condition. Fat density mass is seen with atrophy of the renal parenchyma. Associated conditions like collections, calculi can be assessed using computed tomography .Milder form of renal lipomatosis can be difficult to distinguish from conditions like lipoma, xanthogranulomatous pyelonephritis and angiomyolipoma. Narrowing of renal vessels and its stretching over the sinus fat can be seen in renal angiography. There may mild increase in vascular blush due to infectious process. In xanthogranulomatous pyelonephritis there is infiltration of renal parenchyma by lipid laden macrophages, hence the attenuation will be between the attenuation of fat and fluid within the renal parenchyma .(3)The normal renal outline is lost, and there is renal enlargment with contracted renal pelvis. The calyces in contrast, are dilated giving a multiloculated appearance. (7)Using combined modalities, it is possible to differentiate RRL from other fat-containing neoplasms in the renal fossa, such as angiomyolipoma, lipoma and liposarcoma.

# CONCLUSION

Renal replacement lipomatosis is associated with chronic infection which in this case was tuberculosis . The diagnosis of cause is important as it will change the treatment. The co-existence of xanthogranulomatous pyelonephritis and renal replacement lipomatosis was been found in numerous literature , however the association of tuberculosis was been reported only once .

Source of Support: Nil

Conflict of Interest: None declared.



# **REFERENCES**:

- 1. Casas, J. Darío, et al. "Replacement lipomatosis related to renal tuberculosis: imaging findings in one case." European radiology 12.4 (2002): 810-813.
- 2. Ambos, MARJORIE A., et al. "Replacement lipomatosis of the kidney." American Journal of Roentgenology 130.6 (1978): 1087-1091.
- 3. Kullendorff, B., U. Nyman, and P. Aspelin. "Computed tomography in renal replacement lipomatosis." ActaRadiologica 28.4 (1987): 447-450.
- 4. Xu, Y., et al. "Renal replacement lipomatosis." European surgical research38.4 (2006): 385-387.
- 5. Prasad, K. R., H. Satish Chandra, and KR Vijay Kumar. "Renal replacement lipomatosis." Indian journal of urology: IJU: journal of the Urological Society of India 28.1 (2012): 105.
- 6. Acunas, B lent, et al. "Coexistent xanthogranulomatous pyelonephritis and massive replacement lipomatosis of the kidney: CT diagnosis." Urologic radiology 12.1 (1990): 88-90.
- 7. SM Goldman1,etal.CT of XanthogranulomatousPyelonephntis: Radiologic-Pathologic Correl.American Journal of Roentgenology. 1984;142: 963-969.

**Paper cited as:** Danand Aarti, Chandak Priya, Suresh Parvathy. RENAL TUBERCULOSIS CAUSE OF RENAL REPLACEMENT LIPOMATOSIS : A RARE ASSOCIATION. International Journal of Medical and Applied Sciences. 2017;6(2): 45-49