



## Renal Sinus Lipomatosis-A Rare Case

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### Abstract

Renal sinus lipomatosis is a benign proliferation of fat which occurs with advanced age, obesity and exposure to steroids. Renal sinus and perirenal fat proliferation are caused by renal calculi, thus most renal parenchyma is replaced by fat therefore kidney becomes small and atrophic. We hereby report a case of Renal sinus lipomatosis due to renal calculus.

**Keywords:** Renal Sinus Lipomatosis; Calculi; Renal Replacement Lipomatosis

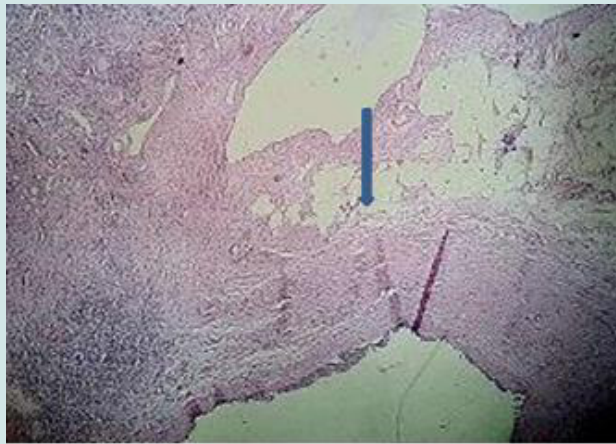
### Introduction

Renal sinus lipomatosis results from renal parenchymal atrophy, inflammation, calculous disease and aging. Usually there is no little mass effect on the collecting system or may be seen rarely. It is a benign condition where the perirenal fat proliferates around the kidney, ureter and the intrarenal collecting system but initially there are no symptoms or renal impairment [1]. Increased exogenous administration or endogenous production of steroids may cause abnormal proliferation of sinus fat. We report a case of Renal sinus lipomatosis presenting with left flank pain and renal calculus.

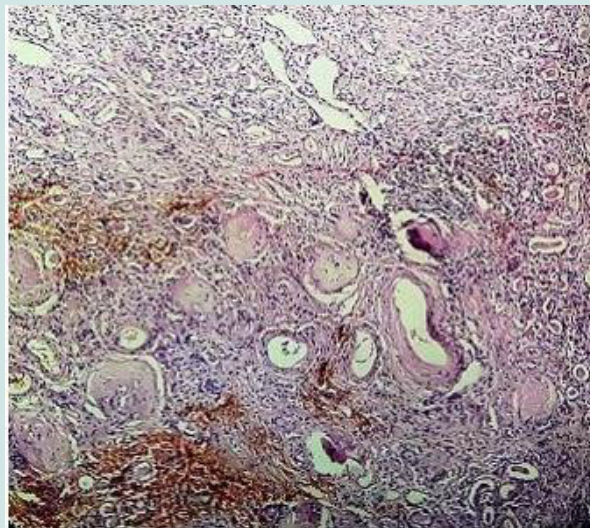
### Case Report

A 39-year-old female patient came to us with complaints of colicky pain. The pain was radiating from loin to inner part of thigh. She had similar history of previous episodes in the past. Urologist told her to go for renal function test and sonography. Her investigations

for renal function were normal. On sonography Right kidney was atrophic and small in size with dilated pelvicalyceal system. The calculus was associated with severe renal parenchymal atrophy. The Nephrectomy was done, and tissue was sent to histopathology department. On grossing Kidney was measuring 6x4x3cm, with perinephric fat 5x4x3cm and ureter was 6cm. External surface of kidney showed lobulations. On cut section corticomedullary differentiation of kidney was not possible. The renal pelvis was dilated with a stone was impacted in the calyx. Microscopically the tissue showed renal parenchyma along with glomerular fibrosis, atrophy of tubules and thyroidisation of tubules. Interstitial tissue showed chronic nonspecific inflammation, sheets of mature adipose tissue were seen more predominantly at the sinus. Section from ureter was unremarkable. Histomorphology was consistent with chronic pyelonephritis with renal sinus lipomatosis (Figures 1 & 2).



**Figure 1:** H and E section 100 x shows replacement of normal renal parenchyma with fat, with arrow.



**Figure 2:** H and E section 400x shows glomerulonephritis and thyrodisation of tubules.

## Discussion

Chronic inflammation of kidney may be because of various etiologies which may cause renal parenchymal atrophy and proliferation of inflammatory and fatty cells which is termed as Renal sinus lipomatosis. with cases of severity fatty proliferation and renal atrophy seen for which terminology renal replacement lipomatosis (RRL) can be used [2-4]. Symptoms are nonspecific for this condition such as flank pain, fever, fatigue, weight loss and dysuria. Plain radiography may demonstrate large staghorn calculus, enlargement of renal contour and in advanced disease, obscuration of ipsilateral psoas margin [5,6]. Ultrasound usually depicts renal enlargement with dilated calyces and parenchymal destruction, renal stone. A staghorn calculus was seen in our case. In Renal sinus lipomatosis there is minimal or absent renal function on the affected kidney, nephrectomy is usually the treatment of choice, therefore our urologist done the surgical procedure and sent specimen to us [7].

## Conclusion

Renal sinus lipomatosis is an uncommon entity along with renal replacement lipomatosis, still be misdiagnosis - mainly with xantho granulomatous pyelonephritis therefore due to lack of awareness by urologists, radiologists, and pathologists may be responsible for under reporting, therefore on extensive literature search we were not able find more literature on this case thus this might be the possibility to make it a rare entity.

## References

1. Davidson AJ, Hartman DS, Choyke PL, Wagner BJ (1999) Renal Sinus and Periureteral Abnormalities. Davidson's Radiology of the Kidney and Genitourinary Tract, 3rd edition. Philadelphia, Pa, USA pp. 431-455.
2. Craig WD, Wagner BJ, Travis (2008) Pyelonephritis: Radiologic-Pathologic Review. Radiographics 28(1): 255-277.
3. Sakata Y, Kinoshita N, Kato H, Yamada Y, Sugimura Y (2004) Coexistence of renal replacement lipomatosis with xantho granulomatous pyelonephritis. Int J Urol 11(1): 44-46.

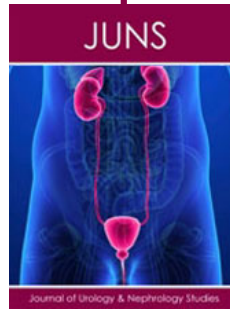
4. Fitzgerald E, Melamed J, Taneja SS, Rosenkrantz AB (2011) MRI appearance of massive renal replacement lipomatosis in the absence of renal calculus disease. Br J Radiol 84(998): e41-e44.
5. Kim J (2004) Ultrasonographic features of focal xantho granulomatous pyelonephritis. J Ultrasound Med 23(3): 409-416.
6. Karasick S, Wechsler R (2000) Case 23: replacement lipomatosis of the kidney. Radiology 215(3): 754-756.
7. Khan M, Nazir SS, Ahangar S, Farooq Qadri SJ, Salroo NA (2010) Total renal replacement lipomatosis. Int J Surg 8(4): 263-265.



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