

Spontaneous Nephro-cutaneous Fistula: A Case Report and Review

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Case Report

Abstract: Background: Renocutaneous fistulae may occur as a result of chronic infection, especially in the setting of calculous disease (Haney et al, 1992)¹. Spontaneous renocutaneous is rare.² The majority of cases develop in patients with antecedents of previous renal surgery, renal trauma, renal tumors, and chronic urinary tract infection with abscess formation. **Case:** We report a case of Spontaneous Renocutaneous(Nephrocutaneous) Fistula in a 49 year male complaining of urine and pus discharge from an opening over left lumbar region since 1 year with history of passage of tiny calculi from the opening 3-4 months back. Abdominal ultrasound and CT scan with fistulogram revealed 'Fistulous tract seen within the subcutaneous plane in Left lumbar region tracking anteromedially through the muscular plane towards retro-peritoneal space, Left posterior para-renal space and in continuity with lower pole of Left kidney. Renogram(DTPA) revealed 'minimal functioning left kidney'. The patient underwent 'Left nephrectomy with excision of fistulous tract'. Post-operatively patient recovered uneventfully.

Keywords: calculous disease; spontaneous; renocutaneous; nephrocutaneous; fistula; nephrectomy; DTPA.

Introduction

Spontaneous renal fistula to adjacent organs is not an uncommon phenomenon, however the spontaneous communication between kidney and skin is rare and few cases are described in the literature³⁻⁵. The occurrence of spontaneous fistulas in patients without surgical history is rare⁵. All cases reported in the literature are associated with chronic urinary tract infection and nephrolithiasis. Often the associated renal unit is poorly functioning, and thus definitive treatment is provided by nephrectomy¹. The authors report one more case of this rare complication of lithiasis-induced chronic pyelonephritis and spontaneous renocutaneous fistula.

Case Report

A 49 year male presented with complains of urine and pus discharge from an opening over left lumbar region since 1 year with history of passage of tiny calculi from the opening 3-4 months back. There was no past history of any surgery or urological procedure. Patient was normotensive and general physical examination was unremarkable. Abdominal examination revealed mild tenderness in left lumbar region. Local examination

revealed evidence of 1x1 cm external opening in left lumbar region with purulent discharge(Figure 1).



Figure 1: External opening of renocutaneous fistula over left lumbar region

Patient was then evaluated with baseline workup haemogram, complete blood count, serum creatinine, blood urea level, serum electrolytes, blood sugar, bilirubin, protein transaminases levels were within normal limit. Urine examination revealed 1-2 epithelial cells/hpf, 4-5 pus cells/hpf, urine albumin and sugar-nil. Urine was negative for acid fast bacilli. Tract wall scraping for acid fast bacilli was also negative. HIV status was negative. Ultrasound of abdomen revealed 'atrophic small sized Left Kidney with grossly distorted architecture and presence of multiple calcification in its parenchyma, suggestive of scarred atrophic Left Kidney possibly secondary to calculus disease'. X-ray KUB and intravenous urography (figure 2) revealed 'large radio-opaque density in Left kidney at Lumbar1- Lumbar2 Level with 2 small opacities at Lumbar2-Lumbar3 disc space suggestive of multiple Left renal calculi. Hypofunctioning small sized / hypoplastic Left kidney secondary to obstructive uropathy secondary to large calculi in renal pelvis. Right kidney with normal function'



Figure 2: X-ray KUB and intravenous urography showing left renal calculus with functioning right kidney

Contrast enhanced Computerized Tomography(CECT)(figure 3) of abdomen with fistulography revealed 'Fistulous tract seen within the subcutaneous plane in left lumbar region tracking anteromedially through the muscular plane towards retro-peritoneal space, left posterior para-renal space and in

continuity with lower pole of left kidney. Hypofunctioning scarred atrophic left kidney secondary to obstructive uropathy due to partially obstructing calculus within renal pelvis (17×15×12mm)(CT density 1100HU) with recurrent secondary infection.

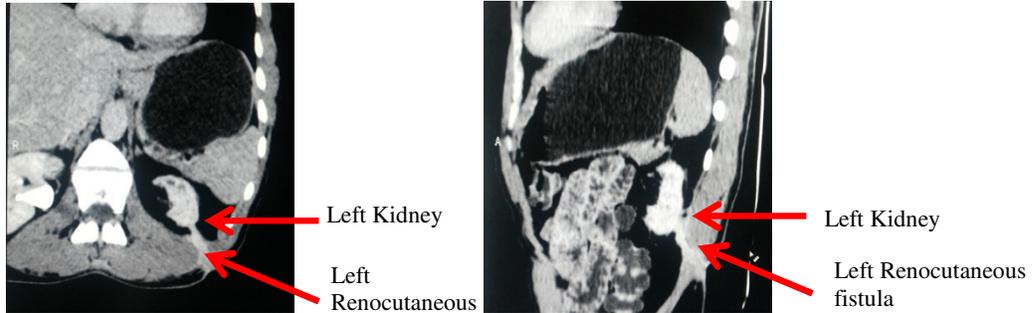


Figure 3: CECT abdomen with fistulography revealing scarred atrophic left kidney reno-cutaneous fistulous tract

Renogram (DTPA scan)(figure 4) also revealed minimal function of left kidney and non-obstructed with normal function and excretion of right kidney.

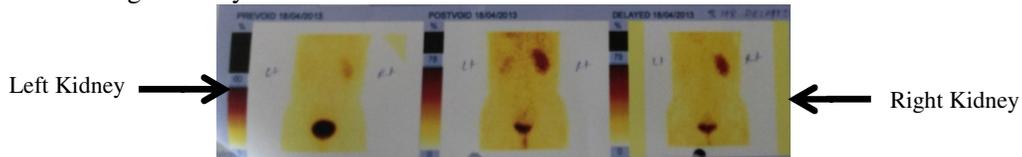


Figure 4: Renogram(DTPA scan) revealing minimal function of left kidney with normal function of right kidney

Based on these investigations patient was posted for left Nephrectomy with excision of fistulous tract. Intra-operative(figure 5a-d) there was evidence of small contracted Left kidney with a large calculi with fistulous tract from lower pole of Left kidney to skin over left lumbar region. The resected specimen of Left kidney and fistulous tract was then sent for histo-pathological examination which revealed Interstitial Nephritis with dystrophic calcification of Left kidney and acute on chronic inflammation of fistulous tract. Post-operatively patient recovered uneventfully and was discharged on post-operative day 10.

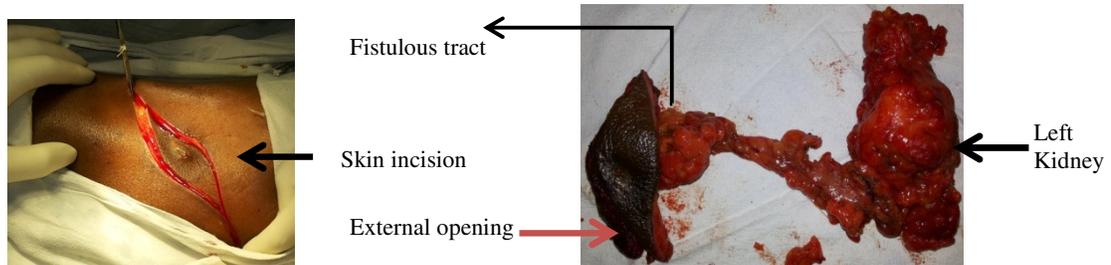


Figure 5.a: Left lumbar skin incision

Figure 5.b: Resected specimen of left kidney with fistulous tract

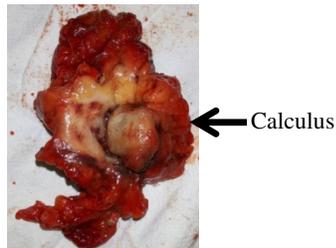


Figure 5.c. open specimen of left kidney



Figure 5.d. Post operative left lumbar suture line

Discussion

Renal fistulas usually are complications of surgical procedures on the kidney, renal trauma, tumors, and chronic urinary tract infections with formation of perirenal abscess¹. Such abscesses can be derive from organs that are adjacent to the kidney, as well as from the kidney itself, by extension of urinary infection to the adjacent tissues, either by contiguity or by lymphatic route. In other occasions, abscesses can originate from an urinoma that arise as result of external or surgical trauma on the kidney, promoting loss of continuity between it and the surrounding tissues⁴. Currently, the occurrence of renal and perirenal abscesses is rare, except patients with diabetes, with neoplasias or immunodepression in general. The outcome of these abscesses, when left untreated, is unforeseeable⁴. Fistulas can develop between the kidney and the pleural cavity, lungs and bronchia, bowel, and skin. However, the latter are rare, and whenever they occur, they typically involve patients with a past history of renal surgery³. The majority of fistulas present as spontaneous drainage through the lumbar region following those points with lowest resistance, such as the lumbar triangle (Petit) and the lumbar quadrilateral (Grynfeld), establishing a fistulous pathway that communicates the perirenal tissues and collecting system

with the external environment². The association with infectious renal stones is frequent and has occurred in all cases described in the literature³⁻⁵. The patient in this case had renal calculi in the involved kidney. Therapeutic approaches must be based on the renal function and on the patient's ability to tolerate the surgical procedure, and can include total nephrectomy, partial nephrectomy or isolated antibiotic therapy⁵. In the present case, the patient evolved without postoperative intercurrents and was free of symptoms.

References

1. Eric S. Rovner. Urinary Tract Fistulae. In: Alan J. Wein, Louis R. Kavoussi... [et al.], Editors. Campbell-Walsh Urology. 10th ed: Saunders, an imprint of Elsevier Inc.; 2012. 77, P. 2261.
2. Alberto a. Antunes, adriano a. Calado, evandro falcão: Spontaneous nephrocutaneous fistula. Int braz j urol. 2004; 30: 316-8.
3. Bryniak SR.: Primary spontaneous renocutaneous fistula. Urology.1983; 21: 516-7.
4. Sarmiento RC, Blasco CF, Herrera FF, Chica RA, Ostale GJ: Spontaneous nephrocutaneous fistula. Report of a case and review of the literature. Arch Esp Urol. 1990; 43: 411-3.
5. Singer AJ: Spontaneous nephrocutaneous fistula. Urology.2002; 60: 1109-10.