

Case Report

A rare case of spontaneous nephrocutaneous fistula

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ABSTRACT

Acute and chronic pyelonephritis are known afflictions to the kidney in diabetics and in patients of abnormal urinary anatomy. And its presentation as a spontaneous sinus opening on the anterior abdominal wall is a rare phenomenon. We present one such rare case of a 71-year-old male with pus discharge from the anterior abdominal wall for 7 months. On investigating, it was found to be a nephrocutaneous fistula arising from the left non-functional kidney. This was dealt with left nephrectomy along with excision of the sinus tract. Though a very rare condition, a possibility of nephrocutaneous fistula must be kept when dealing with discharging sinus in lumbar region.

Keywords: Chronic pyelonephritis, Nephrocutaneous fistula, Nephrolithiasis, Nephrectomy

INTRODUCTION

Formation of nephrocutaneous fistula is a common occurrence in an operated patient with distal obstruction, but the occurrence of nephrocutaneous fistula spontaneously is rare and only few cases have been reported in our extensive review of literature. The cases in the literature report occurrence of fistulae secondary to infections, tuberculosis and commonly secondary to surgery.¹⁻⁵ Most of the time, the required treatment is complete nephrectomy with excision of the nephrocutaneous fistula.

CASE REPORT

A 71-year-old male patient presented in the outpatient department with the chief complaint of pus discharge from the anterior abdominal wall for 7 months. There were no other complaints. There was no significant history apart from the development of an oozing sinus for the past 7 months. On examination, there was a sinus on the skin in left lumbar region on the anterior abdominal wall. Rest of the physical examination was normal.

Laboratory investigations like hemogram, liver and renal function tests were normal. The pus sent for culture sensitivity was normal with no organisms grown, no acid-fast bacilli seen. Test for *Mycobacterium tuberculosis* was negative in CB-NAAT test.

Chest and abdomen X-rays were normal. Ultrasound of abdomen revealed a sinus tract from anterior abdominal wall up to the left Gerota's fascia on the left side. A contrast enhanced computed tomogram of abdomen with sinogram showed the fistulous tract communicating with the left pelvicalyceal system with opacification on sinogram with minimal peri-renal enhancement with small shrunken kidney which was non-functional. A diethylenetriamine pentaacetic acid scan revealed a non-functioning left kidney. Hence a planned exploratory laparotomy was done with nephrectomy along with in toto excision of the sinus tract and a drain was kept in the perinephric space.

On gross examination there was a specimen of size 1.5×8.5×8 cm. Brownish yellowish fatty congested distorted. Tubular structure of size 9×1.5×1 cm probably

sinus arising from left kidney. Small contracted kidney with increased perinephric fat with thick capsule adhered to cortex. Cortico-medullary differentiation was lost. Multiple cyst seen in cortex. Multiple stones seen in cortex largest of size 2×1.2 cm brown in color, non-crushable.

On histopathological examination showed increased perinephric fat tubules that showed thyroidisation and cloudy change. There was glomerulosclerosis, arteriosclerosis with replacement of the interstitium with fibrocollagenous tissue with marked inflammation.

Post operatively the drain was removed on day 4 and was discharged on day 5. Patient followed up 1-month post surgery and was asymptomatic.



Figure 1: Clinical photograph of the discharging sinus on the anterior abdominal wall.



Figure 2: 3D reconstruction of the CECT abdomen with sinogram delineating the sinus reaching the left Gerota's fascia.



Figure 3: Coronal section of the CECT abdomen showing nonfunctional left kidney.



Figure 4: Intra-operative image of the fistula communicating between left kidney and the anterior abdominal wall.



Figure 5: Photograph of the specimen retrieved after left nephrectomy with the ureter and the fistulous tract.

DISCUSSION

Many causes for nephrocutaneous fistula are described in the literature. Most commonly, clinically observed cases of nephrocutaneous fistula occur in the post operatively if there is distal obstruction. There are many causes

described in the literature for e.g. post tuberculosis of the urinary tract, xanthogranulomatous pyelonephritis and nephrolithiasis, although the reported cases are very rare.¹⁻⁵ Also, another cause of fistula formation is post trauma in which there is formation of urinoma which finds its way out through the path of least resistance i.e. through the posterior triangles of Grynfeldt and Petit. But after extensive review of literature there was no mention of any case till the date of publication regarding any case with fistula opening over the anterior abdominal wall. This patient also had nephrolithiasis as seen in the CECT abdomen and grossing.

Approach for therapy described is always complete nephrectomy, partial nephrectomy or prolonged antibiotic treatment, decision of which is based on the tolerability of the patient.

Some authors have described the possibility of malignancy, but this has not been established in any of the studies.⁶

CONCLUSION

Though a very rare condition, a possibility of nephrocutaneous fistula must be kept when dealing with discharging sinus in lumbar region. Therapy for the condition remains complete or partial nephrectomy based on the status of the function of the kidney.² Further studies are needed to understand this condition.

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