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A Case of Recurrent Nephrocutaneous Fistula Treated with Partial Nephrectomy

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ABSTRACT

Nephrocutaneous fistula is a distressing clinical condition. The fistula can be very difficult to treat and has a high chance of recurrence. The standard treatment of a recurrent fistula is nephrectomy along with the excision of the fistula. We present a case with recurrent nephrocutaneous fistula along with a hypofunctional contralateral kidney. This was a difficult clinical scenario as any compromise of the affected kidney could have resulted in renal failure. The patient was treated with a left upper polar partial nephrectomy and excision of the fistulous tract.

INTRODUCTION

Nephrocutaneous fistula is a rare complication of renal surgery. It may be associated with nonfunctional kidneys, staghorn calculi, renal trauma, renal tumors, or chronic urinary tract infections. The fistula can be very difficult to treat as there is a high chance of recurrence. The standard treatment, in case of recurrence, is nephrectomy along with the excision of the fistula [1-3]. We present a case with recurrent nephrocutaneous fistula along with a hypofunctional contralateral kidney. This was a difficult clinical scenario as any compromise of the affected kidney could have resulted in renal failure.

CASE REPORT

A 56-year-old man with a history of open pyelolithotomy done in 2003 presented with a complaint of intermittent seropurulent discharge from a wound in his left flank over the last 5 years. He was previously diagnosed as having a nephrocutaneous fistula, and had an excision of the tract done in 2010, but after an asymptomatic period of 6 months, the discharge returned. On examination there was a 1 cm x 1 cm opening in the left flank with pouting granulation. His urea was 51 mg/dl and creatinine was 2.1 mg/dl. The urine culture was sterile. An MRI revealed hydronephrosis of the upper pole of the left kidney with evidence of perinephric inflammation, but a fistula could not be visualized (Figure 1a). It also revealed a shrunken right kidney (Figure 1b). The biopsy of the tract was suggestive of chronic inflammation. Urine examination performed for 3 consecutive days on 2 separate occasions did not reveal any acid-fast bacilli. There was no evidence of malignancy or tuberculosis. A 99mTc Diethylenetriaminepentaacetic acid (DTPA) scan was done, which revealed a total glomerular functional rate of 35 ml/min, the majority contributed from the left kidney (88%). A reterograde pyelogram was performed taht failed to reveal any lesion or calculi. Though there was upper polar hydronephrosis, there was no infundibular narrowing. A double j stent was inserted on the left side but the patient continued to have fistula discharge; therefore, surgical intervention was planned.

KEYWORDS: Fistula, kidney, cutaneous

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case report
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Figure 1. (a) MRI (T2 weighted) revealing left upper polar hydronephrosis with perinephric inflammation (arrow). (b) The shrunken right kidney (arrow) is also seen.
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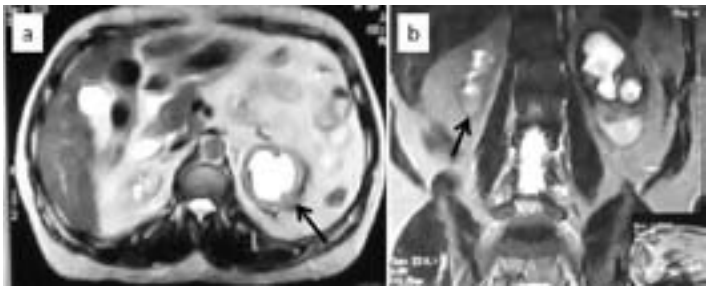

As the right kidney was shrunken to prevent the patient from renal compromise from a left nephrectomy, a left partial upper polar nephrectomy was performed. As the patient already had 2 open explorations, the kidney was approached from the bed of the eleventh rib. The kidney could be reached with significant difficulty due to dense adhesions. There was an abscess cavity in the outer aspect of the renal parenchyma, which was in continuation with the fistulous tract. An upper polar partial nephrectomy was performed under cold ischemia along with the excision of the tract. The patient recovered well in the postoperative period. There was a mild elevation of serum creatinine in the post operative period but after 3 weeks, the level returned to the preoperative level of 2.1. At a follow-up of 10 months, the patient is doing well and is free of any recurrence.

DISCUSSION

Nephrocutaneous fistula is a rare but serious complication of renal surgery. The incidence ranges between 1 to 2%. The nephrocutaneous tracts usually heal spontaneously once the distal drainage from the kidney is ensured but in rare cases they may persist. The usual causes for persistence are distal urinary obstruction, malignancy of the tract, tuberculosis, and chronic nonspecific inflammation [2-6]. The possible cause of recurrence of the nephrocutaneous fistula in the case presented above was the persistence of renal infection due to inadequate resection of the tract during the previous surgery.

The diagnosis of a nephrocutaneous fistula usually requires direct antegrade or reterograde pyelography or fistulography, because underlying renal disease usually precludes sufficient contrast medium opacification for the visualization of a fistula on intravenous urography. The diagnosis can occasionally be made by CT or MRI [2,5,6].

To treat the patient, an etiology should be sought. Nephrectomy is usually considered to prevent recurrence. Since these lesions occur most often in kidneys with hypofunctionality, nephrectomy is the preferred solution. The case presented here was a difficult clinical scenario. The patient already had 2 open surgeries making re-exploration a technically difficult procedure. Moreover, his contralateral kidney was shrunken with low functionality. Performing a nephrectomy would have been a more feasible option to prevent further recurrence but would have created renal compromise and even the need for lifelong dialysis. Partial nephrectomy, though technically challenging in a revisited scenario, was the best option for the patient and could be performed successfully.

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