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A case report on a rare case of pyeloduodenal fistula

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Abstract
Pyeloduodenal fistula (renal pelvis to duodenum) is a rare entity, with about 80 cases reported in the world literature so far 1. It is mainly secondary to renal calculi or chronic pyelonephritis, renal tuberculosis and renal malignancies. Here we discuss a case report of pyeloduodenal fistula, preoperative diagnosis and management of it.

Keywords: Pyeloduodenal fistula, world literature, diagnosis and management

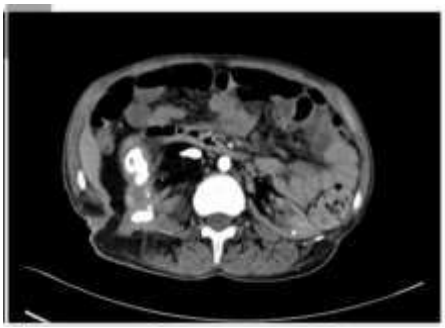
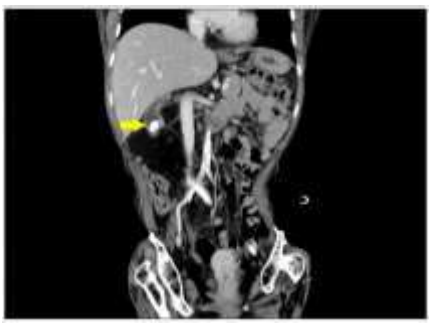
Introduction
Pyeloduodenal fistula is rare clinical entity. It is mainly caused by inflammatory diseases which include inflammatory bowel diseases, renal calculi disease, benign and malignant neoplasms and pyogenic infections. Traumatic pyeloenteric fistulas can occur by trauma, surgery and interventional procedures. Pyeloduodenal fistula was first reported in 1893.

Case Report
A 60 years old male patient named Nagarbhai Kunjibhai chavda residing at Halwad, Surendranagar, labourer by occupation, presented with complain of right sided lower abdominal pain and right flank pain since 6 months which was mild to moderate, colicky intermittent radiating to back. It was associated with fever since 10 days which was low grade intermittent and without chills and rigors, it was associated with burning pain while micturation, it was not associated with constipation, diarrhoea, hematuria, pyuria. Patient had no prior history of any comorbidities, hospitalization and surgery. Patient had no addiction either. There was no any significant family history or similar episode in the past.
On clinical examination patient was afebrile, pulse rate was 84/min in right radial artery, Blood pressure was 108/64 mm hg in right brachial artery. Oxygen saturation was normal without pallor, icterus, pedal edema, lymphdenopathy. Per abdominal examination reveals mild tenderness over right lumber region and periumbilical region.

Discussion
Primary renal inflammatory pathology is commonest cause of pyeloduodenal fistulas. Second part of duodenum is commonly involved due to close proximity to renal pelvis, retroperitoneal location of duodenum, absent peritoneum between duodenum and renal pelvis, relative immobility of duodenum [2, 3]. Pyeloduodenal fistula can be spontaneous or traumatic. Chronic pyelonephritis due to renal pelvic calculi is common cause of spontaneous fistula.
Before advent of antitubercular therapy, tuberculosis was common cause of these fistulas. Cases of fistulas have been reported due to carcinoma of kidney – be it squamous cell, transitional cell or adenocarcinoma [4].
These fistulas usually present as flank pain, upper gastrointestinal symptoms, urinary frequency, urgency, general malaise and weight loss. Patients can present with fever, flank pain and tenderness. Pyuria may be seen in significant number of patients [5]. Diagnosis of pyeloduodenal fistulas is enigma because of vague presentations. Our patient had no fever and IVU showed non-excreting kidney, thereby making possibility of pyeloduodenal fistula remote. This is usual presentation in non-functioning kidney because of renal calculi. However kidney size of our patient was within normal limits, which suggests remote possibility of pyeloduodenal fistula. Kidney size could be normal because of intermittent renal pus drainage into duodenum. CT scan is also necessary in patients with xanthogranulomatous pyelonephritis, who can also present as pyeloduodenal fistula [5].
Treatment of pyeloduodenal fistula includes treatment of underlying cause, which may be.

Pyelonephritis [5] and obstructing renal calculi as seen in our patient. Diagnosis of pyeloduodenal fistula preoperatively is difficult. In our patient, we have observed adhesions along with fibrous track between second part of duodenum and renal pelvis over right side, and there was no bile leak intraoperatively after separating duodenum from renal pelvis, we finished nephrectomy as per routine. We observed duodenal rent in second part of duodenum. This was in fact pyeloduodenal fistula. We presume that absence of bile leak intraoperatively might be because of aperistaltic duodenum, dependant and positional drainage of bile in left lateral position. We opine instillation of 500 ml saline at intraoperative site to look for air bubbles. Caution needs to be exercised in densely adherent duodenum.

Investigation


On admission laboratory Investigation showed leukocytosis (15400/cu mm and 84% polymorphs), serum creatinine was 1.94 and urine routine examination showed plenty of pus cells. Patient was non-reactive for HIV, HBsAg and HCV with normal electrolytes.

On Utrasonography showed right staghorn calculi of 5*3 cm in size and fistulus connection between renal pelvis of right kidney with duodenum which was confirmed by CT SCAN examination.

Conclusion

This is one of rarest case of pyeloduodenal fistula. Clinicians must be aware of pyloduodenal fistula as a rare complication of right renal calculus, right pyelonephritis. Appropriate and timely intervention could minimize the risk of detrimental consequences like intestinal (Duodenal) perforation, peritonitis and prolonged hospital stay.

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