

Duodeno-ureteric Fistula Secondary to Chronic Duodenal Ulceration

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Abstract

Renoalimentary fistulae are rare. When they occur, they are usually between the right renal pelvis and the duodenum. The primary pathology often resides in the kidney, and nephrectomy is often necessary in the management of such fistulae. We describe a case of an elderly man who presented with non-specific abdominal pains. He had a history of peptic ulcer which was treated with H2 antagonist. He was well for the past few years until recently when he experienced upper abdominal pains. Subsequent investigations showed a duodeno-ureteric fistula secondary to a chronic duodenal ulcer. The kidney was normal. Polya gastrectomy was performed and the patient recovered with complete resolution of his symptoms.

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Introduction

Peptic ulcer disease causing renoalimentary fistula is rare despite the close proximity of the stomach and duodenum to the right upper urinary tract. Of 73 cases of renoalimentary fistulae reported in the literature,¹ there was only one case of a gastroduodenal fistula from a perforated gastric ulcer reported in 1905.² We recently managed a case of fistulation between the upper right ureter and the second part of the duodenum as a result of chronic duodenal ulceration.

Case Report

A 63-year-old Chinese gentleman complained of intermittent right-sided upper abdominal pain for 6 months. He had a history of peptic ulcer disease which was successfully treated with H2 antagonist many years ago. There was no other gastroenterology or urinary symptoms. Physical examination was unremarkable. Urinalysis, serum electrolyte and bicarbonate levels were normal and did not show any urinary tract infection, electrolyte imbalance or metabolic acidosis.

An intravenous urogram was performed to exclude a urological lesion for his abdominal pains. An abnormality in the region of the right pelviureteric junction was noted with a mildly dilated pelvicalyceal system. Retro-

grade pyelogram subsequently showed extravasation of contrast from the upper third of the right ureter into the duodenum (Fig. 1).

Gastroscopy confirmed a large duodenal ulcer occupying the anterior, superior and inferior surface of the second part of the duodenum. Another ulcer was noted in the gastric antrum. A narrowed pyloric canal was encountered. Biopsies of the ulcers showed chronic ulceration with *Helicobacter pylori* seen in the specimens.

Computed tomographic scan of the upper abdomen showed an inflammatory mass in the region of the second part of the duodenum. The right kidney was normal.

At laparotomy, a tract was found between the inferior aspect of the duodenal ulcer and the medial wall of the upper right ureter. The right kidney and the rest of the right ureter were normal. The tract was excised and a Polya gastrectomy was performed in view of the narrowed pyloric canal. The distal margin was extended to include the ulcer in the proximal part of the second part of the duodenum. The opening in the right ureter was closed primarily over a double-J stent using 4(O) polyglycolic acid sutures. His postoperative recovery was uneventful and the double-J stent was removed after 6 weeks.

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Fig.1. Retrograde pyelogram showing uretero-duodenal fistula.

Discussion

Fistulation between the kidney and the alimentary tract was first described by Rayer in 1839.³ To date, only 73 cases of renoalimentary fistulae have been reported.⁷ The primary pathology often originate from the kidney,

while that from the gastrointestinal tract is extremely rare. There was one case of gastroduodenal fistula from a perforated gastric ulcer and two cases of appendicorenal fistulae arising from appendicular abscesses.⁴ Our unusual case involved fistulation between the right upper ureter and the second part of the duodenum secondary to the chronic duodenal ulcer.

The symptomatology of pyeloduodenal fistulae are predominantly gastrointestinal since the flow is more likely to be from the urinary tract to the gastrointestinal tract.^{5,6} Hyperchloraemic acidosis as a result of urine absorption by the bowel has been reported.⁵ Small fistulae with minimal flow may present with non-specific abdominal pains. The confirmation of a renoalimentary connection depends on radiology, of which retrograde pyelogram is the most useful.

Surgery is indicated for renoalimentary tract fistulae. Often, nephrectomy is necessary because the kidneys would be severely impaired from the primary pathologies, which are usually renal in origin. However, if the primary pathology resides in the upper gastrointestinal tract and there is effective medical treatment, as is the case with peptic ulcers, it is conceivable that such fistulae may heal with conservative treatment if the tract is small.

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