

## **DUODENORENAL FISTULA IN A PACIENT WITH RENAL MALIGNANCY**

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**Abstract:** Duodenorenal fistulas consist of anomalous communication between the renal collecting system and the duodenum. They are rare entities, with few cases reported in the literature. They can affect the upper or lower urinary tract, the female reproductive system, the intestinal tract, or even externalize to the skin. They may be due to multiple causes, including malignant causes. Symptom nonspecificity can delay diagnosis. Imaging tests are of fundamental importance for the diagnosis. Here we report the case of a female patient with a fistula caused by a malignant renal neoplasm invading the duodenum.

**Keywords:** Renal-duodenal fistula, urinary tract, neoplasm, intestinal tract.

## INTRODUCTION

Fistulas between the upper urinary tract and the gastrointestinal system are rare conditions in which there is continuous or occasional communication between the upper urinary tract and the alimentary canal. (CAMPOBASSO et al., 2014).

Among nephroenteric fistulas, duodenorenal fistulas are even rarer, having as main causes inflammatory pathologies of the kidney and perirenal spaces and chronic obstructions of the upper urinary tract. (BISSADA et al., 1973). They may also have other etiologies, such as traumatic, iatrogenic or neoplastic. Symptoms can be nonspecific and long-lasting, which can delay diagnosis.

## CASE REPORT

We report here the case of a 47-year-old female patient, who was admitted to the emergency department of a tertiary hospital in the state of Ceará, reporting epigastric pain, hyporexia, postprandial vomiting and weight loss (about 15 kg). He also reported a history of hospitalization in January of the same year due to anemia and fever, having undergone blood transfusion.

On physical examination, the patient was in good general condition, normotensive, with a round abdomen, painless on palpation, and a hardened mass with imprecise limits was palpated in the right flank and hypochondrium.

Upper digestive endoscopy (UGE) was performed in March 2020, which showed a gastric polyp, in addition to an infiltrated lesion with purulent drainage in the transition between the first and second duodenal portions.

The patient then underwent a contrast-enhanced tomography of the abdomen and pelvis, which showed an enlarged right kidney at the expense of a well-defined, heterogeneous expansive lesion, containing calcifications and intermingled gaseous foci (figure 1), with peripheral enhancement by the contrast product (figure 1). two). Communication of the lesion and the renal collecting system with the second portion of the duodenum was characterized (figure 3). There was also a delay in the concentration and excretion of the contrast product by the involved kidney, inferring a loss of function (Figures 4 and 5).

Right nephrectomy associated with right ileocelectomy, partial gastrectomy, Billroth II gastrojejunal anastomosis and terminal ileostomy were performed. The histopathological study of the lesion revealed Sarcomatoid Renal Carcinoma.

## DISCUSSION

Urinary tract fistulas are uncommon and (UT) can have quite different causes, locations, clinical pictures and treatments. (BISSADA et al., 1973). They can affect the upper or lower urinary tract, the female reproductive tract, the gastrointestinal tract (GIT), or even externalize to the skin. Fistulas between the UT and the GIT tract are rare clinical entities. (BISSADA et al., 1973) and usually involves colonic loops. Small bowel involvement is

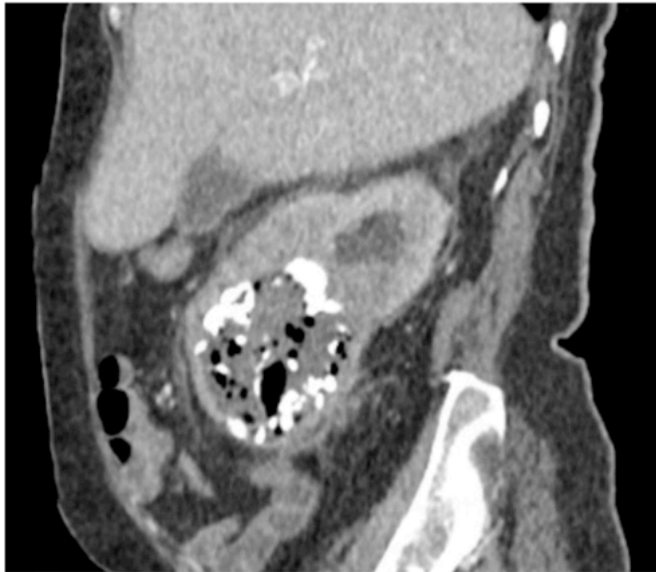


Figure 1 – Abdominal tomography image in the arterial phase, with sagittal reformatting, showing an enlarged right kidney at the expense of a well-defined, heterogeneous expansive lesion containing calcifications and intermingled gas-eous foci

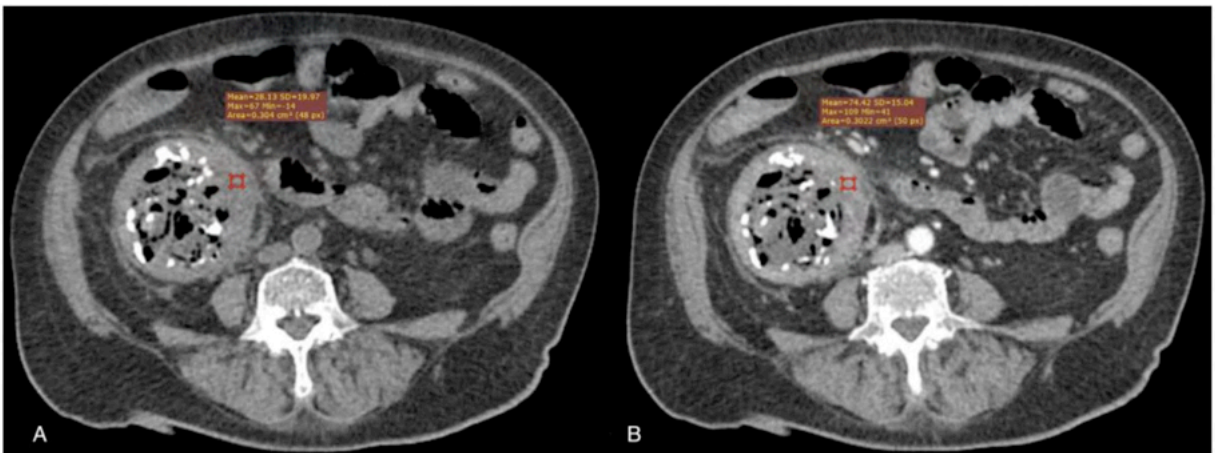


Figure 2 – Computed tomography of the abdomen in the axial plane, in pre-contrast (A) and arterial (B) phases, showing peripheral enhancement of the lesion.



Figure 3 - Computed tomography of the abdomen in the axial plane (A) and coronal reformatting (B), in the arterial phase, showing a break in continuity between the renal lesion and the duodenum

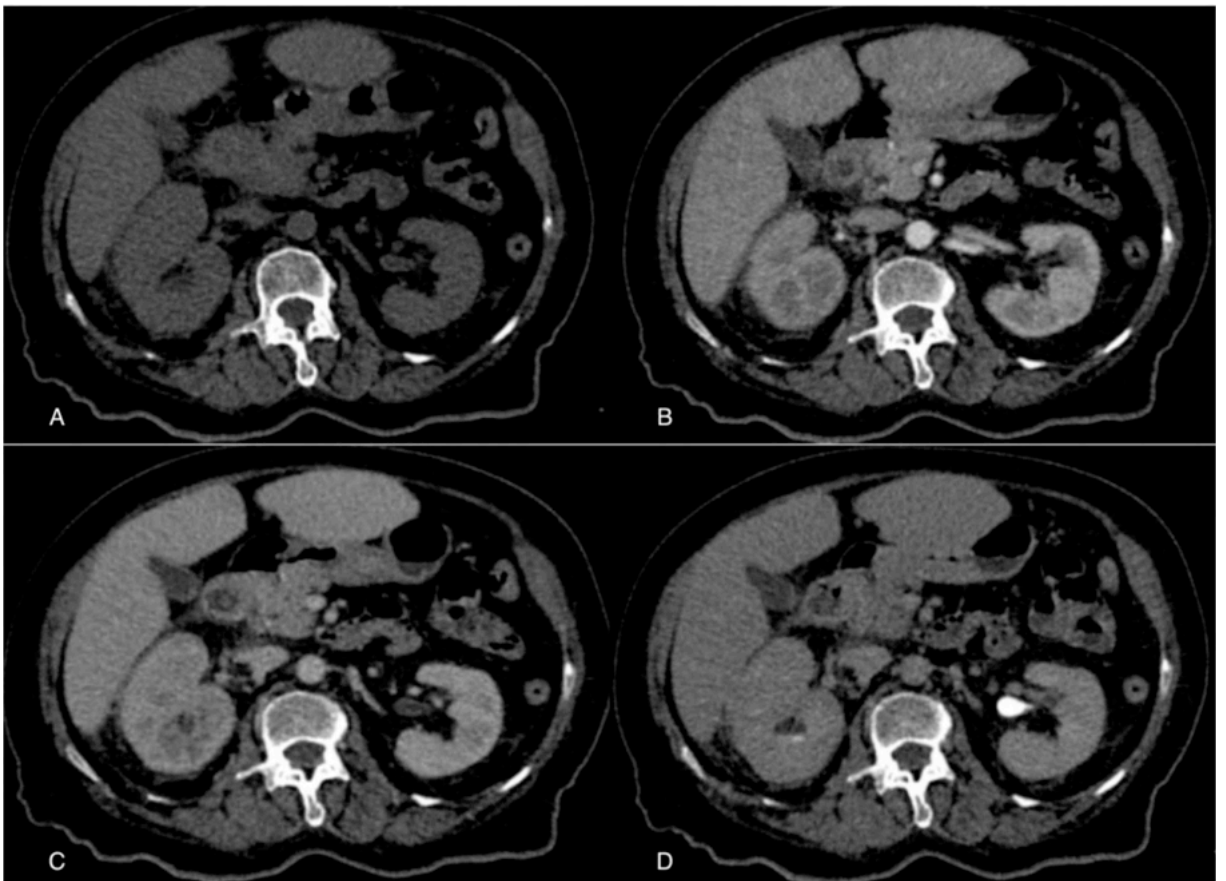


Figure 4 - Computed tomography of the abdomen in the axial plane, in pre-contrast (A), arterial (B), portal (C) and excretory (D) phases, showing delayed concentration and excretion of the contrast product by the right kidney.



Figure 5 - Computed tomography of the abdo-men in coronal reformatting and excretory phase showing excretion of the contrast prod-uct by the left kidney, but not by the kidney direito.

even rarer, with few cases reported. Bissada et al, in a study involving 92 patients diagnosed with pyelointestinal fistulas, 59 were colonic fistulas, 22 were duodenal, 7 were gastric and 2 involved the cecal appendix. Fistulas may be due to pyogenic or granulomatous kidney infections (YILDIZ et al., 1993), renal neoplasms, especially necrotic ones (BLASTEIN et al., 1996) trauma, iatrogenic causes, as in percutaneous lithotripsy (LANG et al., 1987), or chronic urinary obstructions due to stones (WOEN et al., 2019). The rarity of reointestinal fistulas can be attributed to the fact that their formation is usually a manifestation of kidney disease at an advanced stage (BLASTEIN et al., 1996).

The absence of pathognomonic symptoms and the heterogeneity of presentation can sometimes result in a delay in diagnosis. They may include abdominal pain, weight loss, adynamia, nausea, vomiting, hyporexia, pyuria, recurrent fever, among others. (CAMPOBASSO et al., 2014). Fecaluria and pneumaturia may also occur, particularly if they involve colonic loops.

Imaging tests are of fundamental importance to establish the diagnosis. Tomography is the most used exam for this, having good sensitivity and specificity. (PARVEY et al., 1997). Findings may include extrarenal inflammatory changes, abscesses extending from the urinary tract and kidneys to portions of the gastrointestinal tract, or complex masses with intermingled gas in contact with both the renal collecting system and the GIT. (SZABLA et al., 2019). Excretory urography usually does not add relevant information because the affected kidney usually has no or reduced functionality.

The management of fistulas mainly involves the identification and treatment of the underlying causes. Surgical interventions are usually required and may include nephrostomies, surgical removal of the involved non-functioning kidney, fistulectomy, as well as removal of involved intestinal loop segments. (CAMPOBASSO et al., 2014).

## REFERENCES

1. CAMPOBASSO, D., Granelli, P., Maestroni, U., Cerasi, D., Ferretti, S., & Cortellini, P. (2014). Are Nephroenteric Fistulas Only a Surgical Trouble? *Indian Journal of Surgery*, 77(3), 222–225. doi:10.1007/s12262-014-1046-1
2. BISSADA NK., Cole AT., Fried FA. Reno-alimentary fistula: an unusual urological problem. *J Urol* 1973; 110:273–276
3. YILDIZ M., Atan A., Aydoganli L., Cengiz T., Akalin Z. Renocolic fistula secondary to chronic pyelonephritis. *Int Urol Nephrol* 1993; 25:229–233.
4. BLASTEIN L.M., Ginsberg PC. Spontaneous renocolic fistula: a rare occurrence associated with renal cell carcinoma. *J Am Osteopath Assoc* 1996; 96:57–59
5. LANG E.K. Percutaneous nephrostolithotomy and lithotripsy: a multi-institutional survey of complications. *Radiology* 1987; 162:25–30.
6. WOEN. W.J. et al. Reno-duodenal fistula as a complication of longstanding renal tract calculus. *Oxford Medica Case Reports* 2019, 12: 498-501.
7. PARVEY HR., Cochran ST, Payan J, Goldman S, Sandler CM. Renocolic fistulas: complementary roles of computed tomography and direct pyleography. *Abdom Imaging* 1997; 22:96–99.
8. SZABLA N., et al. Pyelo-colic fistula: A rare diagnosis highlighted by abdomino-pelvic scan. *Journal of Visceral Surgery* (2019), <https://doi.org/10.1016/j.jviscsurg.2019.04.009>