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Superior mesenteric artery pseudoaneurysm fistulised to the small intestine in a pancreas–kidney transplant recipient: Can it be detected by capsule endoscopy?



Seudoaneurisma de arteria mesentérica superior fistulizado a intestino delgado tras un doble trasplante renopancreático: ¿puede ser diagnosticado por cápsula endoscópica?

Simultaneous pancreas–kidney transplantation (PKT) is the treatment of choice for patients with type 1 diabetes mellitus and end-stage renal disease. Gastrointestinal bleeding is an uncommon complication following pancreas–kidney transplantation (around 1%), but it is associated with high morbidity and mortality. Upper gastrointestinal bleeding related to gastric ulcers is more frequent than lower bleeding. The rupture of a pseudo-aneurysm of the graft, from splenic or gastro-duodenal artery, is a rare cause of obscure gastrointestinal bleeding in this group of patients.¹

Investigation of gastrointestinal bleeding in a pancreas–kidney transplant recipient includes initially an upper and/or lower endoscopy, followed for radiologic procedures as an abdominal computed tomography (CT) and a digital subtraction angiography (DSA).

Small bowel Capsule Endoscopy (SBCE) is an endoscopic tool for visualize small bowel and with a higher diagnostic yield in obscure gastrointestinal bleeding compared to radiologic procedures.^{2,3}

This is a case of a patient with previous simultaneous pancreas–kidney transplantation who presented an obscure gastrointestinal bleeding. Capsule endoscopy played an important role in the diagnosis and management.

A 53-year-old man underwent kidney–pancreas transplantation for type I diabetes mellitus and end-stage renal disease. After two years, he was admitted to the emergency room with 4 days of melena, without instability. Nasogastric lavage showed clear gastric content, with no blood. Hemoglobin level was 8.4 g/dl with normal platelet count and coagulation parameters. Upper gastrointestinal

endoscopy was performed showing a small sessile polyp lesion in antrum with no traces of blood.

After 24 h, the patient had a rebleeding episode and 4 blood units were transfused. After clinical stabilization colonoscopy was performed showing diverticulosis in the sigmoid colon and abundant blood traces. CT angiography (CTA) was performed showing a 2.3 cm pseudo-aneurysm at the anastomosis between the graft's pancreatic arteries and the recipient's common iliac arteries. There was no contrast extravasation into the intestinal lumen.

A Pillcam Small Bowel Capsule Endoscopy (SB2, Given Imaging, YoKneam, Israel) was administered, showing as the most important finding, a cavity located in medium jejunum (40 min after pylorus) where the capsule was retained for more than 3 h surrounded by several ulcerative lesions, mucosal erythema and neovascularization as well as a polypoid image that seemed to correspond to ampulla of Vater (Fig. 1). These findings suggested that the pseudo-aneurysm was fissuring the small bowel, so an urgent angiography was performed.

The angiography of the right common iliac artery confirmed a pseudo-aneurysm originated in the superior mesenteric artery (SMA) anastomosis (Fig. 2). Embolization of the aneurysmal sac was performed. First, two coils were placed in a branch of the SMA to prevent retrograde filling of the pseudo-aneurysm and later, detachable coils were used to treat the aneurysmal sac. The final angiography showed an 80% exclusion of the pseudo-aneurysm. Subsequent Doppler ultrasound and CTA confirmed its complete occlusion. Additionally, a mycotic aneurysm was ruled out after a labeled leukocyte scintigraphy.

The patient presented an excellent outcome, with no recurrent bleeding episodes, and was discharged in a week. After 1 year of follow-up the patient has not presented any rebleeding episode, Doppler ultrasound remains without changes, and the pancreas and kidney transplant continue to function properly.

This is a rare case of obscure gastrointestinal bleeding due to a donor pancreatic artery pseudo-aneurysm, complicated with an arterioenteric fistula.

There are few cases reported in the medical literature.^{4–7}

The pseudo-aneurysms are serious, usually late-onset complications, which could be located at any intraparenchymal artery of the graft, at the interposed arterial graft or at

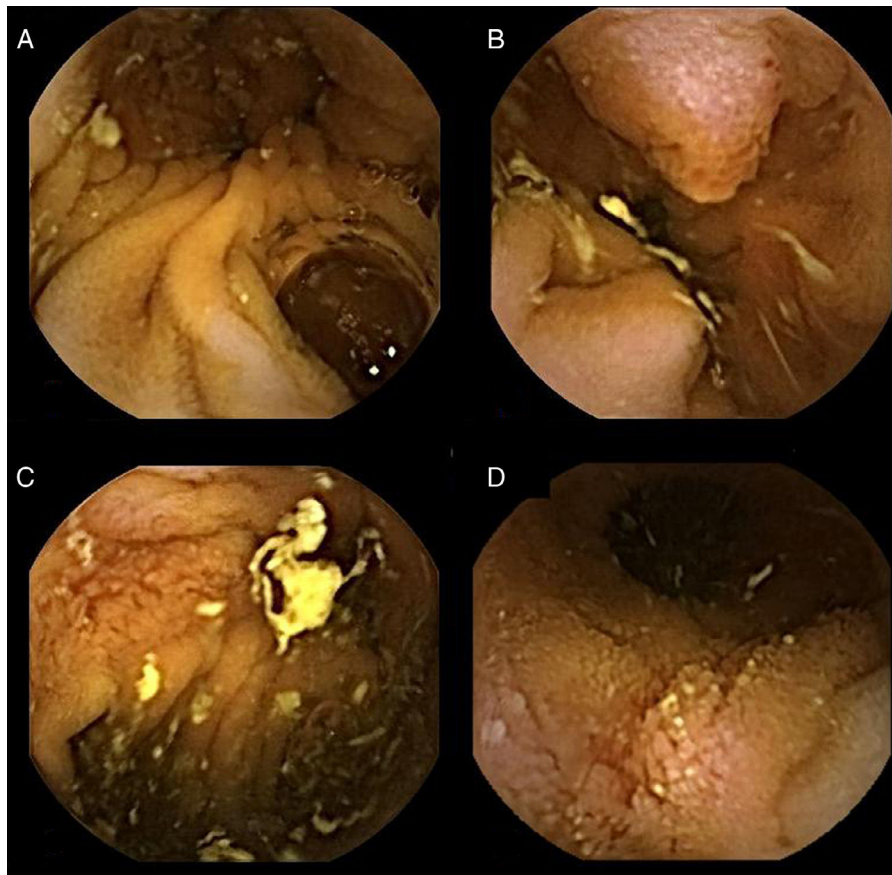


Figure 1 Capsule endoscopy findings. From left to right, CE showing a double lumen, due to the anastomosis of the trasplanted duodenum to the recipient jejunum (A), a polypoid ampulla of Vater (B) and an atrophic mucosa area with ulcerative longitudinal and geographic lesions (C, D).

the donor-recipient anastomosis and may debut as arterio-enteric fistula (duodenum-enteric bypass).

Clinical presentation is usually as a lower gastrointestinal bleeding (enteric bypass), right lower quadrant pain, pulsate mass, sepsis (infectious ethology) and hemodynamic instability in case of rupture.

The diagnosis is usually made by Doppler ultrasound, CTA, MRA or DSA. The endovascular approach is becoming the treatment of choice due to the high risk of graft loss associated with open surgical correction. If the patient is stable and the origin of the aneurysm is not infectious it can be treated by angiographic embolization. In cases of hemodynamic instability (ruptured risk or recent rupture) or when embolization is not feasible, surgical treatment (transplantectomy) should be considered.⁸⁻¹¹

In this case, a small pseudo-aneurysm was diagnosed previously by CT examination but wall contact was not demonstrated initially and bleeding was not suspected. SBCE showed the presence of ulcers at this level and an arterio-enteric fissure of the donor artery pseudo-aneurysm was suspected. So we must highlight the superiority of the capsule to visualize lesions like ulcers that go unnoticed by the radiology.

In conclusion, gastrointestinal bleeding due to a donor artery pseudo-aneurysm with arterio-enteric fistula is a severe complication in kidney-pancreas transplanted recipients, and although Doppler ultrasound, CTA, MRA

angiography and arteriography are the main diagnostic studies, capsule endoscopy could play a role in selected cases if radiology studies are normal.



Figure 2 CT image showing the pseudoaneurysm (*) originating from the anastomosis of the superior mesenteric artery of the pancreatic transplant (white arrow) with the Y graft of the donor. The patency of the splenic artery of the allograft (white arrowhead) can be seen.

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Pseudocirrhosis in metastatic breast cancer[☆]



Seudocirrosis en cáncer de mama metastásico

Pseudocirrhosis is a radiological term that refers to a condition showing changes in hepatic contour that mimic cirrhosis in the absence of the typical histopathological findings of cirrhosis in pathology tests.¹ This entity has been described primarily in cases of metastatic breast cancer with or without use of systemic chemotherapy (CT). However, similar cases have been observed in other malignancies, such as pancreatic, oesophageal and thyroid cancer.^{2–5} Its prevalence and the exact mechanisms underlying its onset are still unknown. According to the studies published to date, it has been suggested that the morphological changes may be secondary to both the effect of metastatic infiltration of healthy tissue and the hepatotoxicity of CT.⁶

This article presents the case of a 39-year-old female patient who was admitted to the digestive diseases department in August 2015 with abnormal liver function test results

and evidence of diffuse parenchymal liver disease on her abdominal CT scan.

Her personal medical history included a mastectomy with right lymph node dissection due to pT1b(m) pN1a invasive ductal carcinoma (ER–, PR, HER2+++), p53 [80%], Ki-67 [30%], BRCA–) in June 2012. She received adjuvant CT with 4 cycles of cyclophosphamide+doxorubicin followed by combined therapy with docetaxel+trastuzumab for 3 months until March 2013. She then continued on trastuzumab monotherapy until she had completed one year of therapy, finishing chemotherapy in January 2014 and having a prophylactic left mastectomy in June 2014. The patient remained asymptomatic and with normal blood test results for 26 months of follow-up, and had a chest-abdominal CT scan in May 2014, which was completely normal.

On admission, the patient had been suffering from asthaenia and jaundice for 3 months with no other associated symptoms. She said she did not take drugs or toxic substances. Her physical examination was normal, and blood tests showed she had hypertransaminasaemia with indirect hyperbilirubinaemia and EBV, CMV, HBV, HAV and HCV tests were negative. The CT scan (Fig. 1) performed one month prior to admission showed diffuse parenchymal liver disease, predominantly in the left lobe of the liver, with a heterogeneous pattern of signal intensity; there were no SOL of the liver or signs of metastasis, suggesting veno-occlusive disease of the liver. During her admission, her liver function deteriorated (Child–Pugh B7 and MELD 16) and she had progressive thrombocytopaenia, with low levels of antinu-

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