

Triple stenting to treat a complete Wirsung-to-jejunum anastomotic leak after pancreaticoduodenectomy

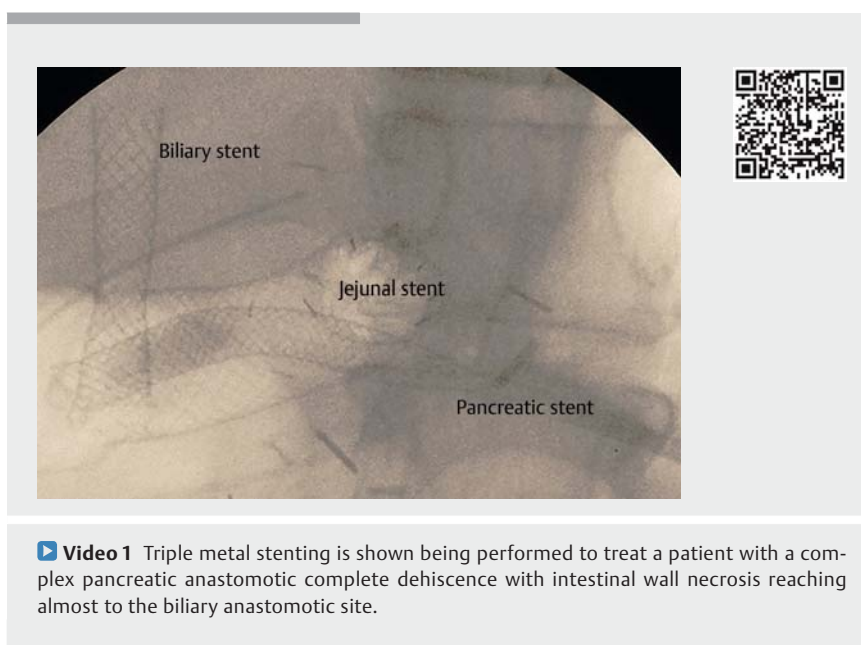
Dehiscences of pancreatic–jejunal anastomoses are the commonest complication, and one of the worst, after duodenopancreatectomies [1]. The treatment is generally re-do surgery, with a residual pancreatectomy being performed in the most severe cases [1]. Endotherapy is generally not considered as an alternative in patients with complete and/or complex leaks [1]. However, endoscopic treatment of postoperative pancreatic fistulas has already been described [2–4].

A 58-year-old patient presented with obstructive jaundice due to a distal cholangiocarcinoma. The patient underwent duodenopancreatectomy (Whipple–Child procedure) with Wirsung-to-jejunum anastomosis. On the 10th postoperative day, he developed a sudden onset of fever associated with bilious vomiting and a leukocytosis. An abdominal computed tomography (CT) scan was performed, which showed a pelvic fluid collection most likely due to pancreatic anastomotic dehiscence.

The fluid collection was immediately drained percutaneously with output of 700 mL per day. From measurements of amylase levels in the drainage fluid, we suspected the presence of a high-out-flow pancreatic fistula. Therefore, we decided to perform an endoscopic retrograde cholangiopancreatography (ERCP) to confirm the diagnosis.

At the endoscopy, performed using a pediatric colonoscope (EC 3490 LK; Pentax), which reached to the distal edge of the afferent jejunal loop with the aid of fluoroscopy, we found a complete dehiscence of the pancreatic anastomosis with a wide defect in the intestinal wall (the pancreatic stump and surgical drain were visible). The surgical pancreatic stent (inserted at the operation) was still in situ.

We decided to treat this wide defect by adapting our previously reported technique of triple stenting [4] for the pres-



ent case. Firstly, we replaced the surgical stent with a 12-cm long, 7-Fr plastic stent (CHBSO 7-5; Cook Medical) using a hydrophilic curved guidewire (Delta Wire; Cook Medical). We also placed an enteral 20-mm×8-cm fully covered self-expandable metal stent (FCSEMS; Niti-S; EuroMedical) in the distal part of the afferent jejunal loop to close the defect in the wall.

Subsequently, we searched the biliary anastomosis through the meshes of the jejunal SEMS using the Delta Wire and placed a biliary FCSEMS (10 mm×4 cm; WallFlex; Boston Scientific) through the biliary anastomosis with the proximal edge inside the jejunal stent to stabilize the position of the enteral stent.

Finally, we looked for the proximal edge of the plastic pancreatic stent that was between the jejunal SEMS and the jejunal wall. Once we had found the plastic stent, we opened the jejunal SEMS using argon plasma coagulation (APC) and pulled the proximal edge of the plastic stent inside the jejunal stent. We decided to replace the plastic pancreatic stent with another

FCSEMS (6 mm×8 cm; WallFlex) to obtain the best stabilization of the prosthetic complex (► **Video 1**).

The fistula output reduced to zero over 3 days and we removed the percutaneous drain after a follow-up abdominal CT scan had been performed. We removed the prosthetic complex 5 weeks later, having confirmed complete healing of the surgical anastomosis.

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Competing interests

None

The authors

Massimiliano Mutignani, Edoardo Forti, Francesco Pugliese, Alberto Tringali, Marcello Cintolo, Giulia Bonato, Lorenzo Dioscoridi
Diagnostic and Interventional Digestive Endoscopy, Niguarda Ca-Granda Hospital, Milan, Italy

Corresponding author

Massimiliano Mutignani MD

Endoscopy Unit, Niguarda Ca-Granda
Hospital, Piazza dell'Ospedale Maggiore 3,
20162, Milano, Italy
Fax: +39-02-64442911
massimiliano.mutignani@ospedaleniguarda.
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References

- [1] Ecker BL, Mc Millian MT, Asbun HJ et al. Characterization and optimal management of high-risk pancreatic anastomoses during pancreatoduodenectomy. *Ann Surg*. doi:10.1097/SLA.0000000000002327
- [2] Bartoli E, Rebibo L, Robert B et al. Efficacy of the double-pigtail stent as a conservative

treatment for grade B pancreatic fistula after pancreaticoduodenectomy with pancreatogastric anastomosis. *Surg Endosc* 2014; 28: 1528–1534

- [3] Mutignani M, Dokas S, Tringali A. Pancreatic leaks and fistulae: an endoscopy-oriented classification. *Dig Dis Sci* 2017; 62: 2648–2657
- [4] Mutignani M, Dioscoridi L, Dokas S. Endoscopic multiple stenting for the treatment of enteral leaks near the biliary orifice: a novel effective rescue procedure. *World J Gastrointest Endosc* 2016; 8: 533–540

Bibliography

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