

Giant Laterally Spreading Tumor of the Papilla



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Abstract

Adenomas of the papilla or ampullary adenomas have the potential to undergo malignant transformation to ampullary carcinoma and should be considered for resection. It is important to distinguish between lesions that are eligible for endoscopic resection and advanced neoplasias that require surgical resection. Detailed morphologic assessment is the key tool that informs on the risk of invasive malignancy. We present the case of a 56-year-old woman with an extensive flat adenoma that encompasses the papilla and nearly the complete duodenal circumference. Detailed macroscopic evaluation and stent placement are performed. This article is part of an expert video encyclopedia.

Keywords

Double duct sign; Endoscopic resection; Endoscopic retrograde cholangiopancreatography; Invasive malignancy; Jaundice; Stent placement; Video.

Video Related to this Article

Video available to view or download at [doi:10.1016/S2212-0971\(13\)70215-2](https://doi.org/10.1016/S2212-0971(13)70215-2)

Technique

Endoscopic retrograde cholangiopancreatography (ERCP).

Materials

Endoscope:

- ED 3440 TK, Pentax, Tokyo, Japan.

Accessories:

- Biliary balloon dilation catheter: Max Force, 8 mm width, 4 cm length, Boston Scientific, Natick, MA, USA.
- Balloon catheter: Extraction balloon, Escort II, 15 mm diameter, Cook Medical, Winston-Salem, NC, USA.
- Guide wire: Cook Medical, Winston-Salem, NC, USA.
- ERCP cannula: Tapered-tip cannula, Boston Scientific, Natick, MA, USA.
- Stent: Double pig tail, 4 cm, 10 French, Angiomed GMBH and Co, Karlsruhe, Germany.

Background and Endoscopic Procedure

Adenomas of the papilla or ampullary adenomas have the potential to undergo malignant transformation to ampullary carcinoma and should be considered for resection. It is important to distinguish between lesions that are eligible for endoscopic resection^{1,2} and advanced neoplasias that require

surgical resection.³ Detailed morphologic assessment is the key tool that informs on the risk of invasive malignancy. Moreover, staging encompasses multiple biopsies (at least six samples taken from any obviously suspicious area and from the papilla, taking care to avoid the likely location of the pancreatic orifice because of the risk of acute pancreatitis), as well as endosonography and ERCP to assess intraductal extension and depth of tumor invasion.

We present the case of a 56-year-old woman who was referred for cholestasis and painless jaundice. Inspection of the duodenum with a side-viewing endoscope shows an extensive flat adenoma that encompasses the papilla and nearly the complete duodenal circumference. The Paris classification system⁴ defines lesions larger than 10 mm in diameter with a low vertical axis but extending laterally along the interior luminal wall as laterally spreading tumors (LSTs). This classification is useful to improve lesion categorization, which has allowed the development of lesion-specific treatment and surveillance algorithms. In our case, the lesion is defined as an LST-P (polypoid) by the presence of a predominantly sessile (Is) or flat (IIa; elevation <2.5 mm above the level of the mucosa) appearance. Although in the periphery the adenoma shows a regular surface, the region of the papilla reveals destructed mucosal structures. There are two other important findings indicating an already advanced neoplasia: The reddish color and high contact vulnerability are essential hallmarks of neovascularization. Moreover, it is important to feel the consistency of the tumor by gently touching the surface with the tip of the catheter. This maneuver reveals a solid and firm consistency of the lesion. Taken together, these macroscopic and tactile pieces of information strongly suggest an already advanced and infiltrating malignancy that is not amenable for endoscopic resection.

Cannulation of this malignant lesion is challenging because it might be difficult to identify the orifice of the biliary and pancreatic ducts within the neoplasia. In this scenario, a tapered-tip cannula (with a Tipp caliber smaller than the

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regular catheter) might be helpful to probe gently for a potential orifice for the bile duct and to facilitate cannulation. First the pancreatic duct is contrasted and reveals discrete dilation, indicating some obstruction. To cannulate the common bile duct (CBD), the access angle needs to be modified. To this end, the duodenoscope is advanced and the elevator is completely moved upward. A cholangiogram demonstrates an extreme dilation of the CBD that necessitates an unusually large volume of contrast medium to achieve an adequate contrast. In this case, it is helpful to alter the patient's posture and lift the trunk. This maneuver allows the contrast agent to ease down and contrast the distal CBD. Here we see a well-defined distal stenosis at the level of the papilla that does not allow spontaneous emptying of the contrast media neither from the bile duct nor from the pancreatic duct, even after several minutes. At this point, it is decided to restore bile flow by plastic stent placement before surgery. Without dispute, sphincterotomy should be omitted in this situation, as cutting inside a neoplasia carries an unjustifiable risk of bleeding and a potential risk of tumor spread. A guide wire is placed and a 4-cm double pig tail with a 10 French was back-loaded and advanced through the working channel with a pusher. When the stent is advanced through the stenosis, the position of the endoscope is crucial: Always make sure that the tip of the endoscope is in close proximity to the papilla. This position allows optimal control of the catheter and applies enough force to push the stent through the stenosis.

Following biliary decompression, there is rapid improvement in jaundice and two weeks after the procedure, the patient had Whipple's resection and the surgical resection specimen showed an ampullary carcinoma stage T2N1M0. This case emphasizes the importance of the macroscopic appearance for prediction of histology. In 50% of cases with high-grade neoplasia at forceps biopsy, there is already invasive carcinoma identified within the resection specimen.^{1,2}

Key Learning Points/Tips and Tricks

- Advanced ampullary neoplasias show typical mucosal features: Irregularities of the mucosal and vascular pattern, fragility of the microvessels, and neovascularization, as well as firm consistency.
- Therefore, assessment of these macroscopic characteristics is the key procedure of staging.
- Cannulation of a neoplastic papilla might be facilitated by a catheter with a pointy tip.
- Sphincterotomy of papillas with neoplastic infiltration should be omitted.

Complications/Risk Factors

Cannulation of obstructed common bile ducts have an inherent risk of postprocedural cholangitis.

Alternatives

In this case, it is a matter of debate if stent placement should be performed before surgery because of an increased risk of

postprocedural cholangitis episodes. However, because of the jaundice in this case, it was deemed to be justified.

Scripted Voiceover

A 56-year-old woman was referred for cholestasis and painless jaundice.

Inspection of the duodenum with a side-viewing endoscope shows an extensive flat adenoma that encompasses the papilla and nearly the complete duodenal circumference.

Although in the periphery the laterally spreading tumor appears as a simple adenoma, the ampullary region reveals a suspicious destruction of the mucosal pattern. The reddish color and high contact vulnerability are essential hallmarks of neovascularization.

Gently touching the surface with the tip of the catheter allows for analyzing the tumor's consistency – another valuable piece of information. Taken together, the firm consistency and the macroscopic appearance strongly suggest an already advanced malignancy. This is no case for endoscopic resection!

Cannulation of this malignant lesion is challenging because it might be difficult to identify the orifice of the biliary and pancreatic ducts within the neoplasia. In this scenario, a tapered-tip cannula is helpful to probe gently for a potential orifice of the bile duct and facilitate cannulation. First, the pancreatic duct is contrasted and reveals marked dilation, indicating obstruction at the ampullary region. Besides that, there are no abnormalities.

To cannulate the common bile duct, the access angle needs to be modified.

To this end, the duodenoscope is advanced and the elevator is completely moved upward.

Unfortunately, this is not the bile duct but again the unintended cannulation of the pancreatic duct.

The common bile duct is found in the upper corner at the 11 o'clock position and is always positioned higher up into this corner than you first think. Now successful cannulation is achieved and a cholangiogram demonstrates an extreme dilation of the biliary tree that necessitates an usually large volume of contrast medium to achieve an adequate contrast.

In this case, it is helpful to change the patient's position and lift the trunk with the table. This maneuver allows the contrast agent to ease down and contrast the distal bile duct.

Here we see a well-defined distal stenosis at the level of the papilla that does not allow spontaneous emptying of the contrast media neither from the bile duct nor from the pancreatic duct, even after several minutes.

To restore bile flow, placement of a plastic stent is intended. Without dispute, sphincterotomy should be omitted in this situation, as cutting inside a neoplasia carries an unjustifiable risk of bleeding and a potential risk of tumor spread. A guide wire is placed and a 4-cm double pig tail with a 10 French is back-loaded and advanced through the working channel with a pusher.

During stent placement, optimal position of the endoscope is crucial: Always make sure that you keep the tip of your scope in close proximity to the papilla. This position is achieved by turning the big wheel of the endoscope and allows for optimal

control of the catheter and applies enough force to push the stent through the stenosis.

The catheter is released when the holes in the distal end of the pig tail are identified.

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