Revista da
ASSOCIAÇÃO MÉDICA BRASILEIRA
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At the bedside

What is the role of endoscopic ultrasound in palliative drainage of malignant biliary obstruction?

Qual o papel da ecoendoscopia na drenagem paliativa da via biliar por obstrução maligna?

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ARTICLE INFO

Article history:
Received 29 July 2013
Accepted 31 July 2013

Most diagnoses of malignant tumors of the biliary tree are attained at the advanced stages of the disease, so about 85% of patients with such diseases are not candidates for curative surgical treatment. Due to late diagnosis, jaundice is a very common clinical sign in these patients, which results in the need for drainage of obstructed biliary ducts, as untreated bile stasis can cause intense itching, anorexia, liver dysfunction, cholangitis and even early death.[1]

Endoscopic retrograde cholangiopancreatography (ERCP) with biliary stent implantation is the method of choice in the palliative treatment of obstructive jaundice, achieving a success rate of around 90%. However, even in experienced hands, this method fails in approximately 5-10% of cases. If failure occurs, surgical treatment may be indicated; however, this intervention, when compared to the endoscopic procedure, has 30% and 10% of morbidity and mortality, respectively. The percutaneous transhepatic drainage (PTHD) is also a method of palliative drainage of obstructive jaundice in these patients; however, complications such as biliary fistula, hepatic abscesses and hemorrhage can occur in up to 30% of cases.[2]

Aiming at overcoming the limitations of ERCP and the morbidity of palliative surgery and PTHD, the therapeutic endoscopic ultrasound (EUS) has been used as an alternative method for biliary drainage. The basic concept of this technique is the echo-guided access to the biliary tree through the gastrointestinal tract lumen. There are two types of access,

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the intrahepatic and the extrahepatic one; there are three access pathways: transmural, anterograde transpapillary and retrograde transpapillary ductal access.[3]

In transmural drainage, a fistulous trajectory is performed between the biliary tree and the lumen of another organ, which may be the stomach or the duodenum. This trajectory is "molded" by a prosthesis, resulting in the flow of bile into the lumen of this organ, decompressing the biliary tree. Antegrade transpapillary drainage is when the prosthesis placement is performed from the echoendoscope channel (using a guidewire), traversing the biliary duct and leaving through the papilla. Finally, retrograde transpapillary drainage is when the guidewire leaves through the papilla in an anterograde manner; however, the stent is positioned in the biliary tract from a duodenoscope positioned in the duodenum and in front of the papilla (*rendezvous* technique).

Echo-guided drainage has shown a technical success of around 90% of cases in addition to a statistically significant improvement in laboratory parameters (total bilirubin and GGT). However, there is a complication rate of around 18%, which included abdominal pain, bleeding, biliary fistula and stent migration into the abdominal cavity or into the organ lumen.

In summary, one can say that echo-guided biliary drainage is safe and effective, has acceptable complication rates that do not alter the favorable outcome of the procedure, taking into account the severity of the underlying disease.

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