Editorial

Endoscopic retrograde cholangiopancreatography (ERCP) for dificult common bile duct stones

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Received: 09-03-11
Accepted: 06-04-11

Currently, endoscopy continues to be the treatment of choice for extrahepatic lithiasis. Patients who suffer from this disease require multidisciplinary treatment from a team of endoscopy specialists, surgeons and radiologists. Gallstone removal via endoscopic retrograde cholangiopancreatography (ERCP) requires wide open papillary orifices, cutting the biliary sphincter by endoscopic sphincterotomy (ES) or by endoscopic papillary balloon dilatation (EPBD). Both techniques entail biliary complications including pancreatitis, perforation and bleeding. Various studies analyze the risks and benefits of both techniques (1-5). In most of them there is a higher rate of pancreatitis after ERCPs than after EPBDs, but in some of them the rate of extraction is lower for EPBDs. In the era of therapeutic ERCPs, management of difficult gallstones is still a great challenge for even the most experienced endoscopy specialists.

Gastroduodenal and biliary tract anatomy, gall stone impaction and large-sized gall stones (over 20mm) can make endoscopic routines difficult to accomplish. Moreover, they are also responsible for 10% of the failures of gallstone removal via endoscopic sphincterotomy. These cases of failure need risk-benefit analyses for all patients involved so that nonsurgical procedures such as extracorporeal shock wave lithotripsy (ESWL), intracorporeal electrohydraulic lithotripsy (IEL), intracorporeal laser lithotripsy (ILL), endoscopic biliary stenting or percutaneous treatment can be performed.

Mechanical lithotripsy is an endoscopic method that can be programmed in advance or used in emergency cases. It requires the use of a Soehendra® Lithotriptor to fragment the gall stones within a dormia basket to facilitate their removal.

Intracorporeal lithotripsy involves the fragmentation of gallstones via endoscopy using special devices that transmit electrohydraulic shock waves or a laser beam onto the surface of gallstones.

For the treatment of difficult gallstones, endoscopic biliary stenting aims at treating or preventing episodes of cholangitis, which are secondary to gallstone impaction in the distal bile duct (6). Given the impossibility of gallstone removal via endoscopy, it is mandatory to guarantee biliary drainage making polyethylene stenting a satisfactory treatment alternative (7). Stents measuring 7 French are usually effective for maintaining suitable bile flow, although some authors prefer to use either 10 French prostheses or more than one prosthesis (8). It is important to mention that this strategy is used as a bridge to endoscopic or surgical treatment, rather than being definitive.

Most large-sized gall stones can be removed using a basket and mechanical lithotripsy after being widened through a sphincterotomy. In recent years, a combination of sphincterotomy and large caliber balloon-assisted dilatation (12 to 20mm)

has been used for the removal of large stones with good results (9). This technique was initially described by Erzos et al. (10).

Theoretically the combination reduces the high risk of perforation and bleeding from the sphincterotomy while the sphincterotomy itself, by separating the biliary route from the pancreatic route, reduces the risk of pancreatitis associated with expansion through large caliber balloon-assisted dilatation. The combination creates an orifice which is sufficiently wide for removal of large stones without major difficulties. The rate of pancreatitis associated with this procedure has ranged from 0.0 to 3.0%. The main complication is bleeding, although a few incidents of perforation have been reported with serious clinical consequences.

Based on personal experience and the published literature, our recommendations for endoscopic handling of difficult choledocholithiasis are:

- Sphincterotomies and mechanical lithotripsies can be used to handle most large sized or difficult gallstones.
- A sphincterotomy combined with large caliber balloon-assisted dilatation is a very good tool for the removal of large stones (over 15 mm). It has obtained high rates of success with fewer complications than with simple endoscopic papillary balloon dilatations.
- It is recommended that large caliber balloon-assisted dilatation be performed at the maximum diameter dilatation possible for the biliary route.

Conflicts of interest

The author declares that he has no conflicts of interest related with to publication.

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