Endoscopic fistulotomy – ‘The suprapapillary punch’: A method of access to the bile duct during ERCP

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NB HERSHFIELD. Endoscopic fistulotomy – ‘The suprapapillary punch’: A method of access to the bile duct during ERCP. *Can J Gastroenterol* 1994; 8(1):33-35. Endoscopic retrograde cholangiopancreatography (ERCP) is established as the method of choice to investigate the biliary tree when obstruction is suspected. On rare occasions, the papilla cannot be entered because of anatomical or pathological abnormalities. This report describes endoscopic fistulotomy or the suprapapillary punch that has been carried out at the Foothills Hospital in Calgary, Alberta, on 30 of 623 patients referred for ERCP for conditions causing obstruction of the common bile duct or suspected obstruction of the common bile duct. The following communication also describes the method of suprapapillary punch or endoscopic fistulotomy. Results have been excellent with only one complication, a minor attack of pancreatitis after the procedure. In summary, the suprapapillary punch or fistulotomy is a safe and useful method for entering the common bile duct when access by the usual method is impossible.

Key Words: Endoscopic fistulotomy, Endoscopic retrograde cholangiopancreatography (ERCP), Suprapapillary punch

Fistulotomie endoscopique - «Suprapapillotomie» : méthode d'accès au canal biliaire durant la CPER

RÉSUMÉ : La cholangiopancréatographie endoscopique rétrograde (CPER) s'est affirmée comme méthode de choix pour examiner l'arbre biliaire lorsque l'on soupçonne une obstruction. Dans de rares cas, on ne peut accéder à la caroncule à cause d'anomalies anatomiques ou pathologiques. Ce rapport décrit une fistulotomie endoscopique ou suprapapillotomie qui a été effectuée au Foothills Hospital de Calgary, en Alberta, chez 30 des 623 patients adressés en consultation pour CPER à cause de problèmes obstructifs avérés ou soupçonnés du canal biliaire commun. La présentation suivante décrit également la méthode de la suprapapillotomie ou fistulotomie endoscopique. Les résultats ont été excellents, avec une seule complication, soit un épisode mineur de pancréatite après l'intervention. En résumé, la suprapapillotomie ou fistulotomie est une méthode sûre et efficace d'accéder au canal biliaire commun lorsque l'accès par la méthode habituelle est impossible.

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ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY (ERCP) is well established as the investigation of choice in obstructive biliary disorders (1). Combined with endoscopic papillotomy, it is a powerful tool in the management of obstructing calculi, tumours and strictures of the bile duct. This report describes our experience with endoscopic fistulotomy, a method for gaining access to the bile duct that cannot be entered with the usual techniques of biliary cannulation through the ampulla of Vater.

In 623 patients referred to the author's institution for ERCP for conditions causing obstruction of the common bile duct, it was impossible to enter the duct in the usual fashion in 30; they therefore underwent endoscopic fistulotomy or what we have termed 'the suprapapillary punch'. All patients presented with typical symptoms of bile duct obstruction, including right upper quadrant pain, abnormal liver enzymes and a dilated common duct on ultrasonic examination.

PATIENTS AND METHODS

After the usual preliminaries, ERCP was performed in an effort to establish the cause of the obstruction and, if possible, to relieve it by papillotomy and related procedures.

Once cannulation was deemed impossible, the needle knife (Cook Can-

Figure 1) The ampulla is opened above the orifice

Figure 2) A catheter is inserted through the opening

Figure 3) A standard papillotomy is performed

ada) is punched 2 to 5 mm above the fimbriated end of the common bile duct, that is, the ampullary area or mass (Figure 1). Once bile is seen emanating through the little punched hole, a wire-guided papillotome is pushed into the common bile duct through this hole; alternatively, a catheter is pushed through the bile duct wall into the bile duct and x-rays are taken to confirm entry (Figure 2). If this is successful, a wire is left in the hole, a wire-guided papillotome is placed into the duct and a papillotomy is carried out to the transverse fold that delineates the intra- from the extramural duodenum (Figure 3). After this stone extraction, a stent placement is easily achieved. If necessary, the incision can be extended downwards using a reverse papillotome to include the ampullary mass.

Entry in the duct was not possible via the ampulla, despite repeated attempts, in 30 patients.

RESULTS

In 24 of 30 cases, common duct stones were discovered. A papillotome was advanced over a wire passed through the cannula and a papillotomy was performed, with subsequent removal of the stones by either balloon or basket.

In one case, a short cancer of the

ampulla was discovered. A small incision was made with the papillotome and a stent was placed with relief of the obstruction. Biopsies and brushings confirmed the diagnosis of ampullary carcinoma.

In two cases, no obvious pathology was detected to account for the symptoms or the dilated bile duct, and the author assumes these were examples of papillary stenosis. Biopsies and brushings in these two cases were negative for malignancy.

In the remaining three cases, the punch failed to access the biliary system, and patients were referred for further investigation and treatment.

One complication occurred in this group of 30 patients; the patient with ampullary carcinoma developed pancreatitis after the procedure, which was short-lived, and he was referred for surgery to extirpate the malignancy. In 12 of the 24 successful cases, the area was reinspected after three to nine months. The fistula was patent in all cases re-examined and repeat cholangiography was normal.

DISCUSSION

Access to the bile duct is usually obtained through the ampulla of Vater via ERCP and, in practiced hands, presents no problem (2). However in 3 to

5% of patients, failure to cannulate is reported (3). Precut papillotomy has been advocated, but it is stated that the incidence of pancreatitis is significant (4). Combined radiological and endoscopic techniques are also advocated, and are relatively successful in some centres (5).

Endoscopic fistulotomy reportedly is another method of entry to the obstructed duct (6,7), with researchers stating that it should only be done if the dilated duct creates a bulge in the wall of the duodenum, a position with which we agree unreservedly. This technique should not be attempted if the above criterion is not present.

CONCLUSIONS

Endoscopic fistulotomy appears to be safe, and through the fistula that is created, procedures (such as papillotomy, stent placement and biopsies) can be carried out safely. In this group of 30 patients, only one complication occurred – mild pancreatitis – which resolved after simple medical management.

In conclusion, in patients in whom entry to the dilated bile duct is impossible with the usual array of techniques, endoscopic fistulotomy or the suprapapillary punch can be employed safely.

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