



Endoscopic biopsy techniques for proximal biliary strictures

To the Editor,

We read the paper by Meng et al. (1) entitled "Accurate biopsy of bile duct without destroying duodenal papilla" with great interest. They described a new technique to perform endoscopic biopsy in a 75-year-old male with a biliary stricture, which was presumed to be a malignancy, in the hilar region. They used a 7-Fr dilatation catheter (COOK, Winston-Salem, North Carolina, USA) and inserted it into the bile duct and across the stenosis along a guidewire. The withdrawal of the guidewire was followed by the insertion of a 1-mm SpyBite™ forceps (Boston Scientific, El Coyol, Alajuela, Costa Rica) through a dilatation catheter. When the tip of SpyBite™ passed the top, the tissue was grasped. We believe that this technique is highly effective to make a histopathological diagnosis.

However, SpyBite™ forceps is expensive and may not be available in many endoscopy centers. We have previously described a similar technique in which we used a stent pusher instead of a dilatation catheter and a biopsy forceps (diameter, 1.8 mm; length, 160 cm; Endo-Technik, Solingen, Germany) instead of a SpyBite™ forceps (2). We believe that our method using a biopsy forceps through a stent pusher is cheaper and can be performed advantageously to obtain adequate tissue samples from proximal biliary strictures for making an accurate diagnosis.

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Author's Reply

Re: Forceps-related endoscopic transpapillary biliary biopsy programmes, reply: endoscopic biopsy techniques for proximal biliary strictures

To the Editor,

We quite appreciate the attention of Tekin et al. (1) to our research and thanks for their valuable questions. Actually, in addition to the biopsy technique of biliary dilatation catheter combined with SpyBite™ forceps for proximal biliary strictures, we also did tissue sampling with the method as Tekin et al. (1) mentioned of a stent pusher combined with a large-diameter forceps. The necessary working length of the sheath and forceps for hilar biliary biopsy is nearly 1600 mm which includes 1400 mm of working channel in duodenoscope and 100 mm of both ends respectively. Significantly, the end of stent pusher needs to be cut about 50-100 mm because its smaller internal diameter could allow passage of not any forceps but only one guidewire (Figure 1). The current available forcipes used in biliary biopsy in our clinical center can be seen in Table 1, stent pushers and biliary dilatation catheters in Table 2 and Table 3 separately. Further, we have our own single-center experience in the combination scheme that forcipes are matched with stent pushers or dilatation catheters (Table 4).

As a surgical endoscopy center, we found it very common intraoperatively that inflammation and edema of the hepatoduodenal ligament, both of which may result from endoscopic retrograde cholangiopancreatography (ERCP) related destruction of Oddi's sphincter such as endoscopic sphincterotomy (EST) or endoscopic papillary balloon dilation (EPBD) and, would have an adverse effect on subsequent surgery and prognosis (2). In the research we reported previously,

Table 1. Available biliary biopsy forcipes in our center

Type	Diameter	Minimal channel needed	Working length
SpyBite™ forcipes (Boston Scientific, El Coyol, Alajuela, Costa Rica)	1 mm	1.2 mm/3.6Fr	2860 mm
Rotary soft tissue forcipes (Micro-Tech Nanjing, High tech Development Zone, Nanjing, China)	2.6 mm	2.8 mm/8.4Fr	1950 mm
Radial Jay™ (Boston Scientific, El Coyol, Alajuela, Costa Rica)	2.8 mm	3.0 mm/9.0Fr	2400 mm

Table 2. Available stent pushers for biopsy in our center

Diameter	Length	Handing
5.0Fr	2200 mm	cut 50-100 mm of white end
7.0Fr	2200 mm	cut 50-100 mm of white end
8.5Fr	2200 mm	cut 50-100 mm of white end
10 Fr	2200 mm	cut 50-100 mm of white end

**Figure 1.** The end-cut stent pusher

we introduced an endoscopic biopsy technique for proximal biliary strictures, and highlighted the advantage of avoiding EST and its related complications ulteriorly.

Unless EST was performed just as the presentations of Tekin et al. (1), more often, a cylinder-shaped stent pusher of which diameter is more than 7Fr would be hard to push into bile duct via papilla. The tapering tip of dilation catheter that could allow passage of not ordinary forcipes but SpyBite™ forcipes of which diameter is only 1mm, however, is easily pass through the papilla without EST. To be frank, SpyBite™ forcipes is inevitably expensive and difficult to popularize as an accessory of SpyGlass.

In view of these reasons, we suggest that this biopsy technique be recommended as the first consideration for patients who

Table 3. Available dilation catheter for biliary biopsy in our center

Diameter	Diameter of the tip	Length
5.0Fr	3.0Fr	1900 mm
6.0Fr	4.0Fr	1900 mm
7.0Fr	4.0Fr	1900 mm
8.5Fr	5.0Fr	1900 mm
9.0Fr	5.0Fr	1900 mm
10 Fr	5.0Fr	1900 mm

Table 4. The combination scheme of forcipes matched with stent pushers or dilatation catheters

Forcipes	Sheath	Optimum combination scheme
SpyBite™ forcipes	Almost all kinds of stent pusher and dilation catheter (5Fr excepted)	6Fr/7Fr dilation catheter or 5Fr stent pusher
Rotary soft tissue forcipes	≥8.5Fr stent pusher	8.5Fr stent pusher
Radial Jay™	10Fr stent pusher	Not commonly used for it difficult to insert

will undergo operation after pathological findings if SpyBite™ is available. If not, the other biopsy method of stent pusher matched with forcipes after small EST which could prevent Oddi's sphincter from being completely destroyed also can be adopted.

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