

## Usefulness of intraductal cholangioscopy biopsy forceps in critical strictures of the biliary anastomosis after liver transplantation



Anastomotic strictures are a frequent complication after liver transplantation [1]. The key step in endoscopic treatment is getting a guidewire through the stricture. When strictures are critical, an intraductal cholangioscopy (IDC) system (Spy-Glass) can help with passage of the guidewire under direct visualization [2]. In very severe strictures, however, this may be insufficient to achieve guidewire passage, even for small caliber guidewires. We present a new technique that can help in advancing the guidewire in patients with severe anastomotic stricture. Repeated biopsies of the anastomosis are taken, under direct vision with IDC using biopsy forceps (SpyBite), until a passage for the guidewire is cleared. We show this technique in four patients with anastomotic stenosis post-liver transplantation (► **Video 1**).

On endoscopic retrograde cholangiopancreatography (ERCP), a severe stenosis of the anastomosis was observed in three of the patients and a complete stenosis in the fourth. In none of the patients was it possible for the guidewire to be advanced through the anastomosis, even under direct visualization with IDC, although many attempts were made and different guidewires were employed. The IDC biopsy forceps were used under direct visualization to take four to five biopsies of the anastomosis, until the orifice of the anastomosis was of sufficient diameter for a guidewire to be advanced. Once the guidewire could be passed through the anastomosis, ERCP was completed. No complications associated with the technique were observed in any of the patients.

IDC-assisted biopsy of the biliary anastomotic stricture may be useful in advancement of the guidewire in liver transplant patients with critical strictures.

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► **Video 1** Four liver transplant patients with critical anastomotic strictures are presented. Intraductal cholangioscopy was performed in each case, with biopsies taken from the anastomosis until the guidewire could be advanced and the endoscopic retrograde cholangiopancreatography completed.

### Competing interests

J. R. Aparicio is a consultant for Boston Scientific. The remaining authors declare that they have no conflict of interest.

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