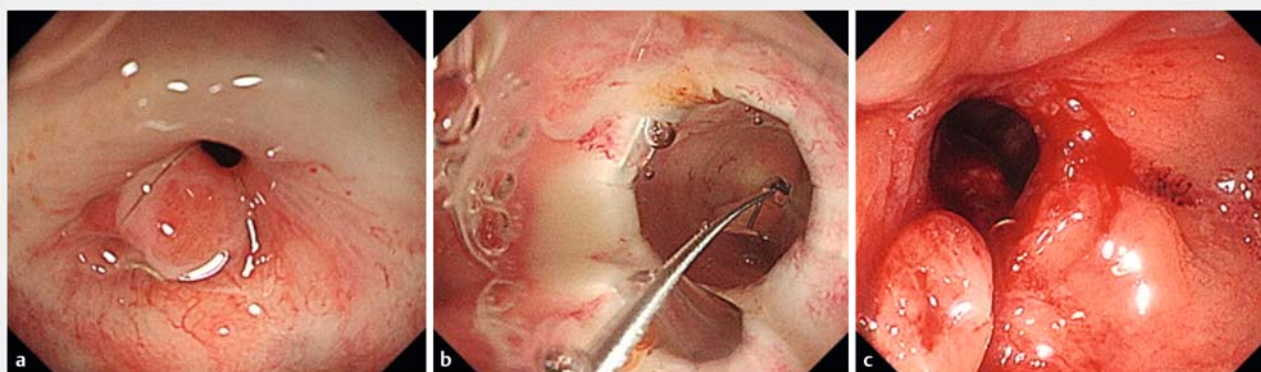


## Radial incision and cutting under gel immersion as a useful method for refractory anastomotic stricture

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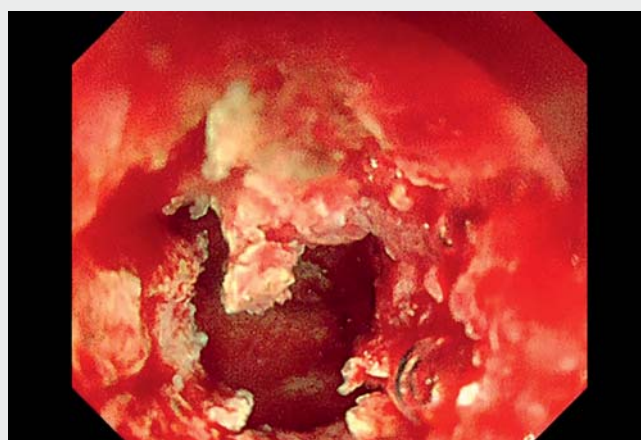
► **Fig. 1** The stricture was refractory and difficult for the scope to pass through despite endoscopic balloon dilation.

The radial incision and cutting method, in which the stricture is incised and the scar tissue excised, has shown promising results in the treatment of refractory anastomotic strictures [1, 2]. It is useful for refractory strictures that are not adequately dilated after repeated endoscopic balloon dilation.

Gel immersion endoscopy with clear gel (VISCOCLEAR; Otsuka Pharmaceuticals Factory, Chiyoda, Japan) is used to displace blood and clots to ensure a good field of view in situations with heavy bleeding or residue [3, 4].

The patient was a 47-year-old man who underwent low anterior resection with creation of a temporary colostomy for rectal cancer. However, a postoperative anastomotic stricture was observed, and endoscopic balloon dilation was performed twice on an outpatient basis after discharge. Because the stricture was refractory and resulted in difficulty passing the scope despite the two dilations (► **Fig. 1**), radial incision and cutting was performed (► **Video 1**).

An ITknife nano (KD-612; Olympus Corp., Tokyo, Japan) was inserted into the stricture, and the scar was incised in the endo cut mode. The incision with the endo cut caused a multifocal hemorrhage resulting in difficulty maintaining the field of

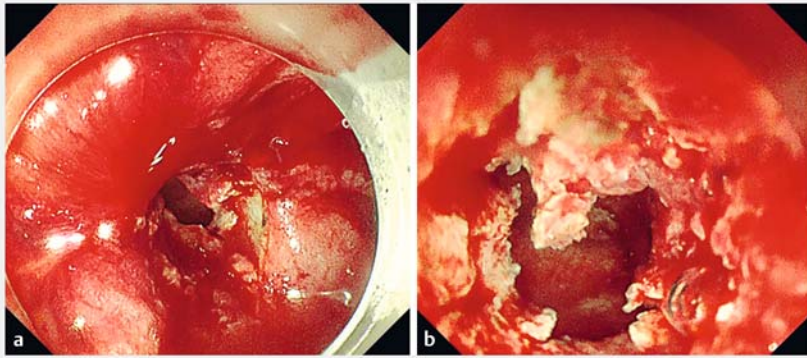


► **Video 1** Radial incision and cutting under gel immersion for the treatment of refractory anastomotic stenosis is safe and feasible.

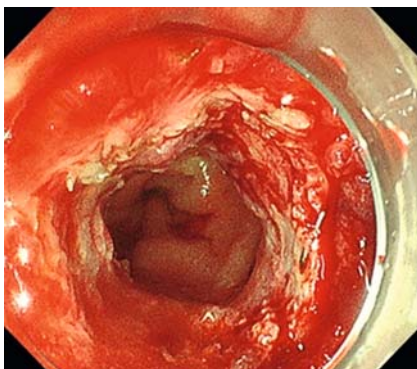
view. When the gel was used, the bleeding point became clear, and it was possible to make an incision with a good field of view while recognizing the line of the muscle layer even with heavy bleeding (► **Fig. 2**). After the procedure, passage of the scope was possible, and no complications were observed (► **Fig. 3**). Endoscopy showed improvement of the stricture 2 weeks later (► **Fig. 4**).

Gel immersion endoscopy ensured a good field of view, even in situations with heavy bleeding. Radial incision and cutting under gel immersion is a safe and efficient method for the treatment of refractory colorectal anastomotic strictures.

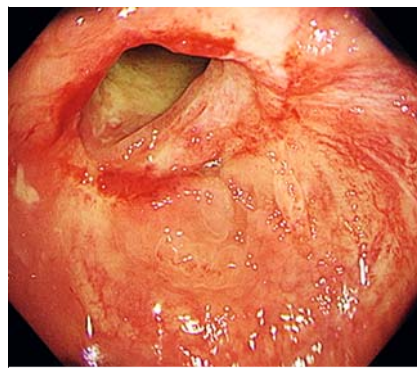
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► **Fig. 2** It was possible to make an incision with a good field of view under gel immersion endoscopy even in a situation with heavy bleeding.



► **Fig. 3** It was possible for the scope to pass through after radial incision and cutting.




► **Fig. 4** Endoscopy showed improvement of the stricture 2 weeks after the procedure.

## Competing interests

The authors declare that they have no conflict of interest.

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