



Figure 1 The multiple ligator device is attached to the top of the endoscope. The tip of the needle is centered in the groove.

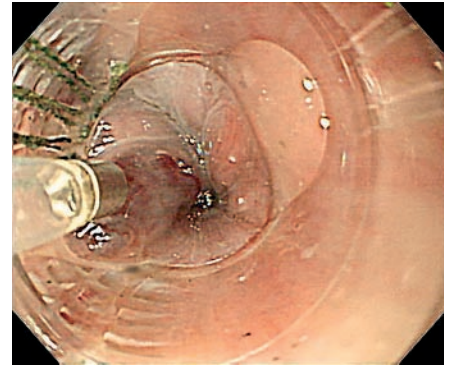


Figure 2 An endoscopic view of sclerotherapy through the cylinder of this new multiple ligator device. The varix has been grasped in the concave groove to allow sclerosant to be injected into it.

A combination of endoscopic injection sclerotherapy with ligation – termed “endoscopic scleroligation” (ESL) – was developed several years ago for the treatment of esophageal varices [1]. This technique has the advantage of allowing better eradication of varices and prevention of recurrence than ligation alone, and it is also associated with a lower incidence of treatment-related complications than endoscopic injection sclerotherapy [1,2]. Despite the advantages of ESL, there are some technical problems with the method. It is sometimes difficult to insert the needle into varices correctly and to infuse sufficient sclerosant through a conventional ligation device, particularly if the varices are small, or in cases of recurrence. The use of a transparent hood featuring a slit or groove in endoscopic injection sclerotherapy has been reported [3, 4]. We have recently developed a multiple-band ligation device incorporating a groove, which makes intravariceal injection more successful. We report here on a new ESL technique using this new device.

The new device is a modification of the Speedband Superview Super 7 multiple-band ligator system (Boston Scientific, Watertown, Massachusetts, USA), which features a cylinder around which the ligator bands are mounted. A groove measuring 6.0 × 4.0 mm was made in the cylinder (Figure 1). Using an endoscope loaded with this modified cylinder and the balloon, we immobilized the varix (Figure 2) and grasped it in the groove of the cylinder so that 5% ethanalamine oleate with iopamidol could be injected into it. After

sclerotherapy, ligation was performed without the need to remove the endoscope from the esophagus as in the conventional ESL method [5]. This procedure was repeated until all the varices were eradicated.

We have carried out ESL using this device in seven sessions in six patients with a history of variceal bleeding. Although three of the patients had small varices, intravariceal injection was successfully performed during all sessions, without any serious complications. In these cases, this new device was found to provide very effective and safe treatment of esophageal varices, even when the varices are small.

**S. Maekawa<sup>1</sup>, N. Aoyama<sup>2</sup>, D. Shirasaka<sup>3</sup>, M. Kasuga<sup>3</sup>**

<sup>1</sup> Dept. of General Internal Medicine, Kobe University Graduate School of Medicine, Kobe, Japan

<sup>2</sup> Dept. of Endoscopy, Kobe University Graduate School of Medicine, Kobe, Japan

<sup>3</sup> Division of Diabetes, Digestive, and Kidney Diseases, Dept. of Clinical Molecular Medicine, Kobe University Graduate School of Medicine, Kobe, Japan.

## References

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## Corresponding Author

**N. Aoyama, M.D.**

Dept. of Endoscopy, Kobe University Graduate School of Medicine  
7-5-1 Kusunoki-cho, Chuo-ku, Kobe Hyogo 650-0017  
Japan  
Fax: +81-78-382-2080  
E-mail: aoyama@med.kobe-u.ac.jp