

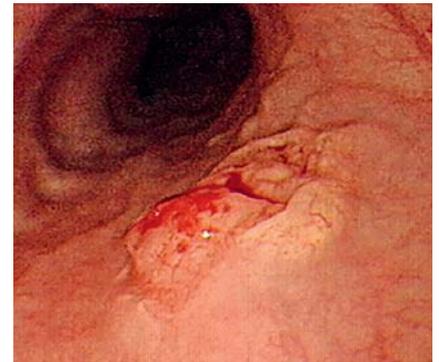
## Endoscopic resection of superficial esophageal cancer covered with esophageal varices

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A 69-year-old man with alcoholic liver cirrhosis underwent upper gastrointestinal endoscopic screening. An irregular, elevated lesion, focally covered with varices in the upper esophagus was observed (**▶ Fig. 1**). A biopsy revealed that the lesion was identified as squamous cell carcinoma (SCC). No metastasis was observed on computed tomography scan. Endoscopic ultrasound (UM-2R, 12 MHz; Olympus, Tokyo, Japan) revealed a homogenous hypoechoic lesion in the second layer with a round anechoic area, which suggested the presence of varices in the margin of the lesion (**▶ Fig. 2**). Endoscopic variceal ligation was performed once 3 weeks before the resection to decrease the risk of bleeding. After marking and submucosal injection using an endoscope (GIF-Q260, Olympus) under general anesthesia, mucosal entry was performed with an I-type knife (FM-EK 0003-2, Finemedix). Submucosal dissection within the tunnel was performed using an IT nano knife (KD-612U, Olympus). Coagrasper (FD-410LR, Olympus) hemostatic forceps was used to remove the perforating vein. After dis-

section of the tumor area, the peripheral margin of the lesion was excised with an I-type knife. En bloc resection of the lesion was performed and no significant bleeding occurred during the procedure (**▶ Video 1**). The lesion was identified, using histopathology, as a moderately differentiated SCC infiltrating the submucosa with lymphatic invasion (**▶ Fig. 3**). The patient refused further surgery because of the high operative risk. No tumor recurrence was observed within 18 months.

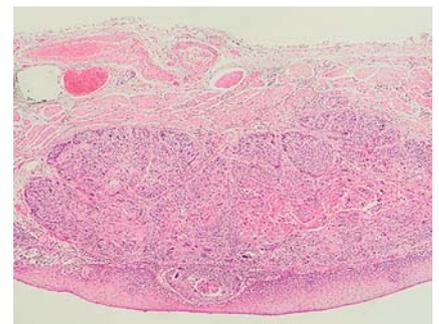
Surgery for esophageal cancer is associated with high rates of morbidity and mortality in patients with liver cirrhosis. In addition, the underlying varices, which are common in patients with cirrhosis, make it difficult to perform endoscopic procedures. Endoscopic submucosal tunnel dissection (ESTD) has been demonstrated to be favorable and effective for treating esophageal subepithelial tumors. In this case, we successfully performed ESTD in a patient with esophageal cancer with a high risk of bleeding. Further studies are required to deter-



**▶ Fig. 1** Upper endoscopy showing a 1.5-cm superficial elevated esophageal lesion.

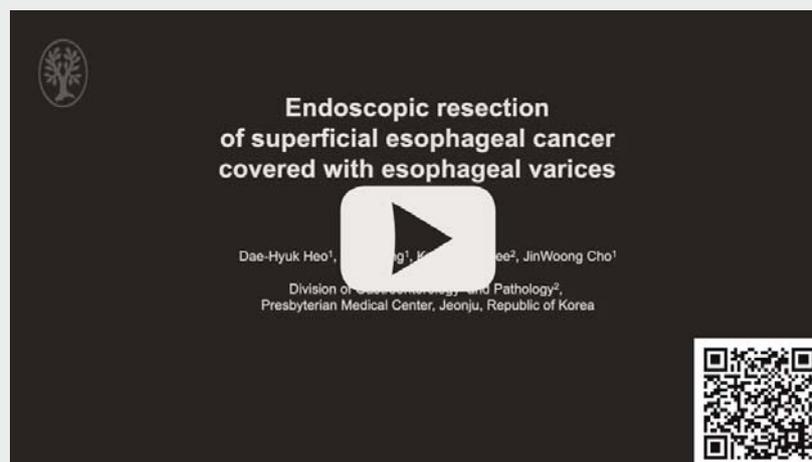


**▶ Fig. 2** Endoscopic ultrasound revealed a homogenous hypoechoic lesion covered with varices located in the second layer of the esophagus.



**▶ Fig. 3** Histopathological examination revealed a squamous cell carcinoma invading the submucosa.

### VIDEO



**▶ Video 1** Successful endoscopic resection of superficial esophageal cancer covered with esophageal varices.

mine the long-term outcomes of this technique.

### Competing interests

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The authors declare that they have no conflict of interest.

### The authors

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### Bibliography

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