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**TITLE:** EFFICACY OF TRACTION DEVICE-ASSISTED COLORECTAL ENDOSCOPIC SUBMUCOSA DISSECTION USING THE S-O CLIP

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**ABSTRACT BODY:**

**Abstract Body :** Background and Aims: Endoscopic submucosal dissection (ESD) has been accepted as an established treatment for superficial intramucosal tumors of the gastrointestinal tract, including colorectum. Relatively thin walls of the colon compared to that of the stomach render colorectal ESD an anatomically challenging procedure, and the narrow lumen restricts an endoscopic manipulation. Several traction methods have been reported to facilitate the colorectal ESD technique. However, the S-O clip (Zeon Medical, Tokyo, Japan) would enhance safety and speedy colorectal ESD. This study assessed the utility of colorectal ESD using the S-O clip.

**Subjects and Methods:** We conducted a retrospective study of patients treated with colorectal ESD from January 2015 to November 2017. Conventional ESD was performed as follows. First, we performed a circumferential incision in the submucosal layer after administering a glycerol and sodium hyaluronate acid solution. After cutting the entire circumference of the tumor from the normal mucosa using a Jet B-knife (Zeon Medical, Tokyo, Japan) and SB knife Jr (Sumitomo Bakelite, Tokyo, Japan), we performed the submucosal dissection. With traction device-assisted ESD, the S-O clip was attached to the proximal side of the lesion after cutting the entire circumference of the tumor. Next, the spring of the clip was fixed to the opposite side with moderate traction (Figure). Furthermore, we compared en bloc resection rate, procedure time, and complication rate in both groups to assess the efficacy and safety of the S-O clip-assisted ESD method.

**Results:** We performed ESD on 62 superficial colon tumors of more than 20-mm diameter, excluding rectal tumor. In this study, 45 patients were operated by conventional ESD (Group A) and 17 patients were operated by S-O clip-assisted ESD (Group B). The rate of en bloc resection was 84.4% (35/45) and 100.0% (17/17), procedure time (mean  $\pm$  SD) was 70.2  $\pm$  34.9 and 54.4  $\pm$  25.8 minutes, and the rate of perforation was 4.4% (2/45) and 0% (0/17) in Group A and Group B, respectively. In Group B, in the semi-right colon, we observed improvement in en bloc resection and shortening of the procedure time (Table).

**Conclusions:** ESD of superficial colorectal tumors is an anatomically difficult procedure; therefore, accurate submucosal dissection of the target lesion is necessary. Hence, the S-O clip-assisted ESD could provide superior performance compared to conventional ESD from the perspective of accuracy and safety.