

**Reviewer #1:**

**Specific Comments to Authors:** I suggest a more in-depth analysis of the factors related to lack of significance considering the literature.

**Response:** Thank you for this comment. I have added a discussion about the usefulness of traction device-assisted ESD (T-ESD) and the impact of traction direction in T-ESD. The combination of T-ESD with a balloon-assisted endoscope (BAE) or underwater ESD (U-ESD) has also been discussed in the revised manuscript. I would appreciate it if you could review the response provided to Reviewer #2's comments (Major points #1 and #2, and Minor points #1) addressing a similar issue.

**Reviewer #2:**

**Specific Comments to Authors:** This is a paper reviewing the limits of traction methods in colon ESD. It also discusses other ingenuity of colorectal ESD.

**Major points**

1. The usefulness of T-ESD was judged by only one RCT, but isn't it premature? There was no significant difference between the two groups in Japanese with excellent endoscopy technology, but what about in Western countries? Also, the usefulness of T-ESD for trainee should be discussed more. T-ESD seems to be a useful method for trainees, but it should be mentioned from that point of view.

**Response:** I agree with your opinion. The usefulness of T-ESD for colorectal lesions should be investigated from various aspects. As indicated in the comment, T-ESD may be especially helpful for trainees, and this point is mentioned in the original manuscript in the "CONNECT-C" section as follows: "Although not significant, the median ESD procedure time was shorter in the T-ESD group than in the C-ESD group for lesions  $\geq 30$  mm in diameter (69 vs. 89 min,  $P = 0.05$ ). In patients treated by nonexpert operators, the median ESD procedure time tended to be shorter in the T-ESD group than in the C-ESD group (64 vs. 81 min,  $P = 0.07$ )."

To address your comment, I have added the following explanation about the usefulness of T-ESD for large lesions and nonexpert operators in the last paragraph of the "CONNECT-C" section: "These results suggest that T-ESD is effective for larger lesions and nonexpert operators."

Further, the original manuscript title “Limitations of device-assisted traction methods in colorectal endoscopic submucosal dissection” may have been too strong. Accordingly, the manuscript title has been revised as follows: “Device-assisted traction methods in colorectal endoscopic submucosal dissection and options for difficult cases.”

Several revisions have been made in different sections of the revised manuscript as follows:

Abstract: “Although T-ESD did not reduce ESD procedure time, the results of the CONNECT-C trial suggest that T-ESD is effective for larger lesions and nonexpert operators in colorectal ESD.”

Core Tip: “Although T-ESD did not reduce ESD procedure time, the results of this study suggest that T-ESD is effective for larger lesions and nonexpert operators.”

Conclusion: “The CONNECT-C trial suggested that T-ESD is effective for larger lesions and nonexpert operators in colorectal ESD.”

The following sentence was deleted: “The results of the CONNECT-C trial suggest that the device-assisted traction methods cannot effectively reduce the colorectal ESD procedure time; hence, other methods should be considered.”

## **2. T-ESD and BAE are not contradictory techniques. Under BAE use, is there a comparison between C-ESD and T-ESD?**

**Response:** As per the best of my knowledge, there are no studies comparing the efficacy of C-ESD and T-ESD under BAE. When combined with BAE, T-ESD may be effective even in cases with poor endoscope maneuverability. I have cited a reference regarding BAE-ESD and discussed the possibility of the combination of T-ESD and BAE-ESD being effective for cases with poor endoscope maneuverability in the last paragraph of the “Factor associated with difficulty in colorectal ESD: Poor endoscope maneuverability” section: “BAE may reduce the risk of intraoperative perforation. A propensity score matching analysis comparing BAE-ESD and C-ESD in the proximal colon revealed that BAE-ESD significantly decreased intraoperative perforation for lesions  $\geq 40$  mm in diameter (0% vs. 24%,  $P = 0.0188$ ), although there were no significant differences in the en bloc resection rate (95% vs. 99%,  $P = 0.17$ ), R0 resection rate

(92% vs. 96%,  $P = 0.30$ ), mean dissection speed (16 mm<sup>2</sup>/min vs. 16 mm<sup>2</sup>/min,  $P = 0.53$ ), and intraoperative perforation (5% vs. 6%,  $P = 0.73$ ) between BAE-ESD and C-ESD [14]. Combining T-ESD with BAE may improve procedure-related outcomes in colorectal ESD cases with poor endoscope maneuverability. However, the effectiveness of this combination has not been comprehensively investigated. Therefore, future studies should focus on counteracting this issue.”

The possibility of the combination of underwater ESD (U-ESD) and T-ESD has been addressed in the section “Underwater ESD (U-ESD): an option for difficult colorectal ESD” as follows: “Moreover, U-ESD can be combined with T-ESD[17-19].”

Accordingly, several other changes have been made in the revised manuscript as follows:

Abstract: “T-ESD may not effectively improve these issues; however, a balloon-assisted endoscope and underwater ESD may be promising methods and can be combined with T-ESD.” The following sentence was deleted: “Therefore, T-ESD may not effectively reduce the colorectal ESD procedure time; hence, other methods should be considered.”

Core Tip: “Balloon-assisted endoscope and underwater ESD seem to be promising options that can be combined with T-ESD.”

The following sentence was deleted: “However, T-ESD failed to reduce ESD procedure time, suggesting that T-ESD is not effective in reducing the colorectal ESD procedure time. Hence, other methods should be considered.”

Conclusion: “Although these issues may not be effectively improved by device-assisted traction methods, BAE and U-ESD seem to be promising options that can be combined with T-ESD.”

### **Minor points**

**1. Figures 1C (diagonally proximal), 1D(diagonally distal), and 1E (distal) should also be mentioned in the manuscript.**

Response: Thank you for this comment. I have addressed the three traction directions in the section “Impact of traction direction in traction-assisted colorectal ESD” as follows: “Although the effectiveness of diagonally proximal

traction (**Figure 1C**), diagonally distal traction (**Figure 1D**), and distal traction (**Figure 1E**) is unclear due to a lack of research on these traction directions, distal traction might be the most ineffective option, because it can make the submucosal dissection plane fall distally when the submucosal dissection progresses and result in thinner submucosa; this may result in accidental dissection of the muscle layer or mucosa due to misrecognition of the layer. Furthermore, distal traction may decrease the effective tension for submucosal dissection, thereby decreasing the dissection speed and prolonging the ESD procedure time. Diagonally distal traction could be advantageous during the initial stages of submucosal dissection, as the traction force aids in widening the incised mucosa and exposing the submucosa, thereby facilitating submucosal dissection. Nevertheless, as submucosal dissection progresses, the dissection plane slowly falls distally from the endoscope tip and becomes thin, making it difficult to provide proper tension for the dissection plane. Diagonally proximal traction may be as effective as the vertical traction, because the dissection plane does not fall distally even when the submucosal dissection progresses, which help in maintaining appropriate tension on the dissection plane.”

I have also added a reference discussing the impact of traction direction in the “Impact of traction direction in traction-assisted colorectal ESD” section as follows: “Indeed, propensity score matching analysis (42 pairs) showed that the S-O clip method had a shorter median ESD procedure time (28.3 min vs. 51.0 min;  $P = 0.022$ ) and higher dissection speed (24.8 mm<sup>2</sup>/min vs. 17.1 mm<sup>2</sup>/min,  $P = 0.001$ ) compared with the clip-with-line method, although this study was conducted in gastric ESD [11]. All traction directions in the S-O clip method were vertical in this study, whereas only 16.7% tractions were vertical in the clip-with-line method. These findings indicate that vertical traction can reduce the gastric ESD procedure time and increase the dissection speed compared with other traction directions. Traction direction may influence the effectiveness of device-assisted traction methods in colorectal ESD, and its impact in traction device-assisted colorectal ESD should be investigated.”

## **2. You should show the figure of S-O clip, clip-with-line, clip pulley.**

**Response:** Thank you for this useful suggestion. I have added figures of the S-O clip (Figure 2), clip-with-line (Figure 3), and clip pulley (Figure 4).

## **2) Company Editor-in-Chief:**

I recommend the manuscript to be published in the World Journal of Gastrointestinal Endoscopy. Before final acceptance, when revising the manuscript, the author must supplement and improve the highlights of the latest cutting-edge research results, thereby further improving the content of the manuscript. To this end, authors are advised to apply a new tool, the Reference Citation Analysis (RCA). RCA is an artificial intelligence technology-based open multidisciplinary citation analysis database. In it, upon obtaining search results from the keywords entered by the author, "Impact Index Per Article" under "Ranked by" should be selected to find the latest highlight articles, which can then be used to further improve an article under preparation/peer-review/revision. Please visit our RCA database for more information at: <https://www.referencecitationanalysis.com/>.

**Response:** Thank you for your suggestions. I have cited five references in the revised manuscript to support the expanded discussion.