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A novel through-the-scope twin endoclip for a large mucosal closure in a live pig model

A novel through-the-scope twin endoclip (TTS-TC) has been developed by our team. The TTS-TC can be delivered directly through an endoscope working channel of 3.2 mm in diameter and contributes to the closure of large mucosal wounds.

A living pig (Feed Research Institute, Guangzhou City, China) weighing 30.5 kg was used to conduct the experiment in vivo. A QF-260J gastroscope (Olympus, Tokyo, Japan) was used. TTS-TC was used to reduce the size of the mucosal wound after endoscopic submucosal dissection (ESD) (Video 1).

The operation steps were as follows. First, the TTS-TC was delivered to the

site of the ESD wound through the endoscope working channel (> Fig. 1a). The clip on one side of TTS-TC was opened by operating the handle of the TTS-TC system, followed by tight clamping of mucosal tissue on one side of the wound (> Fig. 1b). Then, the clamped tissue was pulled toward the opposite side of the wound (> Fig. 1c), and the second clip on the TTS-TC was opened to clamp the mucosal tissue on this side of wound (> Fig. 1 d). After the two sides of the wound had been clamped together, the TTS-TC was released and the wound was closed (► Fig. 1 e). Using this TTS-TC technique, the large wound on the anterior wall of the greater curvature of the

stomach was successfully turned into two smaller wounds. After using a TTS-TC, the wound size decreased, and TTS-TC or traditional through-the-scope clips (TTSC) could subsequently be used to close the wound conveniently.

The size of the wound in the current case was 3.4×3.3 cm. The currently available through-the-scope clips can only close a wound of <2 cm [1], and the over-the-scope-clip requires installation on the outside of the endoscope tip and sometimes the endoscope may need to be reinserted [2,3]. The TTS-TC device seems to be simple and rapid in operation, and can be used to close a large mucosal wound.



▶ Fig. 1 A large wound after endoscopic submucosal dissection was successfully turned into two smaller wounds by the use of the through-the-scope twin endoclip (TTS-TC). a The TTS-TC was delivered to the site of the wound through the endoscope working channel. b The mucosal tissue on one side of the wound was clamped using the TTS-TC. c The clamped tissue was then pulled across to the opposite side of the wound, and the second TTS-TC was used to clamp the tissue on this side. d, e The mucosae on both sides of the wound were clamped together; the headend part of the TTS-TC was then released.





▶ Video 1 A novel through-the-scope twin endoclip for closure of a large mucosal wound in a live pig model.

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Competing interests

None

The authors

Qiang Zhang, Zhen Wang, Yang Bai

Guangdong Provincial Key Laboratory of Gastroenterology, Department of Gastroenterology, Nanfang Hospital, Southern Medical University, Guangzhou, China

Corresponding author

Qiang Zhang, MD

Guangdong Provincial Key Laboratory of Gastroenterology, Department of Gastroenterology, Nanfang Hospital, Southern Medical University, Guangzhou, China

Fax: +86-20-87280770 4024313@qq.com

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