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Titel des Beitrags: A new device to expedite endoscopic submucosal dissection procedures: a randomized animal study of efficacy and safety (with videos)

Abstract: BACKGROUND AND STUDY AIMS: Endoscopic submucosal dissection (ESD) is a recognized method for the curative treatment of superficial neoplasia, but its use is limited by lengthy procedures and the lack of versatility of existing knives. We developed a prototype ESD device with the ability to work as a needle, hook, or “scythe.” This new device was compared to regular ESD knives in a randomized animal study.

PATIENTS AND METHODS: Eight pigs underwent two gastric ESD procedures each, similar in size and difficulty, one with a regular ESD device and the other with the new device. The order and location of each ESD, as well as the performing operator, were randomized. Primary judgment criterion was safety of procedures. Overall and submucosal dissection procedure times were measured. Time-to-surface ratios were measured and estimated for ESDs larger than those performed. Histopathology of the resected tissue and remaining stomach was done after each experiment.

RESULTS: No complications were observed throughout the study and all resections were completed en-bloc and uneventfully. The submucosal extension of resections was similar with both the standard and the new devices. A comparison of time-consumption between groups did not show statistically significant differences, but a dramatic reduction...
of procedure duration was observed in some procedures with the new device; based on observed data, a potential time-saving of up to 66