

# **Fundamental examination into the use of fibrin glue and polyglycolic acid sheets as a method for covering post - ESD ulcers. [Japanese]**

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## **Abstract:**

Aim: Treatment of endoscopic submucosal dissection (ESD) ulcers with fibrin glue and a polyglycolic acid (PGA) sheet prevents procedural accidents. We investigated conditions that improved the application of PGA sheets. Methods: Using isolated porcine stomach, we tested the maximum tensile strength of PGA sheets when pulled off ulcers. More specifically we investigated the impact on PGA sheets of altering application procedures, application surfaces, and their exposure to solutions as may be encountered in a clinical setting. Results: The average tensile strength of group 1, for which the PGA sheet was applied using the standard method, was 1.78 N. The tensile strengths of groups 5, 6 and 7, with PGA sheets exposed to jelly, gastric mucus and saliva, respectively, were significantly lower, with averages of 0.36 N, 0.32 N and 0.53 N, respectively ( $P < 0.05$  for all). The tensile strength of group 8, where PGA sheets were attached to the mucosal epithelium, was also significantly lower ( $P < 0.01$ ), with an average of 0.19 N. Conclusion: We found when treating an ESD ulcer with a PGA sheet, it is important to avoid its exposure to highly viscous solutions and to apply the sheet within the ulcer area.