The healing effects of tissue glues and healing agent locally applied on esophageal anastomoses.

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Publication Date: 2010

Abstract:

Objective: This study aimed to investigate the effects of cyanoacrylate (C), fibrin glue (FG), and natrium hyaluronate (NH) on the healing of esophageal anastomosis (EA). Methods: Twenty-four rabbits were divided equally into 4 groups: primary anastomosis (PA), C, FG, and NH. A 1-cm-length of the cervical esophagus was resected through a cervical incision and then anastomosis was performed. C, FG, and NH were instilled into anastomosis lines in the respective groups. The animals were fed orally on postoperative day 7 on the condition that there was no esophageal leakage. The rabbits were sacrificed 8 weeks later to evaluate bursting pressure (BP), tissue hydroxyproline (HP) levels and wound healing scores (WHSs) in the anastomosis lines. Results: BP was significantly higher in the C group than in the PA, FG, and NH groups, and HP was significantly lower than in the other groups. WHSs in the PA and NH groups were lower than in the C and FG groups. Conclusions: C and NH appear to be beneficial in EA healing with respect to increased BP and decreased HP when they are used simultaneously with PA prophylactically to prevent esophageal leakages and stricture.