Small bowel anastomosis with new fibrin glue in animal model.

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Abstract:

Background: In many surgical procedures in pelvic and abdomen, gastrointestinal anastomosis has a main role.These days, bowel anastomosis is done with some techniques like handsewn and stapler anastomosis. In some research, the use of fibrin glue in abdomen is convenient, operation time is reduced, and intra abdominal adhesion is lower than standard manner. In this research we evaluated new fibrin glue for small bowel anastomosis in animal model. Methods: In this experimental study, we operated 5 dogs in same race, age and gender. After laparatomy under general anesthesia 5 cm of small intestine resected, then anastomos with new fibrin glue was done. After 15 days, the dogs were reoperated and surgical site was evaluated and then anastomosis was done by handsewn method. PASW version 18 was used for data analysis. Finding: Mean time for anastomosis with fibrin glue was 6:47 and 11:11 for handsewn. Mortality and peritonitis didn't occur. After second operation there was no any sign of leakage, intraperitoneal inflammation and abscess. In microscopic only one case attachment wasn't seen in mucosa and submucosal layers but it was occurred in muscular and serosal layers. Conclusion: The mean time of FG anastomosis was shorter than handsewn and the patency of surgical site was favorable beause there was no significant different between diameters of proximal and distal lumens compare whit normal bowel diameter. Our data reveals that we can use FG (that reinforced by nano particles) for reinforcement of GI anastomosis with high safety level, especially in high risk situation.