

# **Fibrin glue with gentamicin as an alternative to conventional surgery in experimental treatment of duodenal fistula in rats.**

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## **Abstract:**

Duodenal fistula is a significant ongoing surgical problem. Minimal invasive treatment might be an alternative to conventional open surgery. This study aimed to investigate whether addition of gentamicin to fibrin adhesive can augment current surgical methods. Having established a fistula, the defect was closed using the following: simple suturing, suturing covered with fibrin sealant only, or suturing with fibrin sealant mixed with gentamicin. Bursting pressure and macroscopic and microscopic examination were evaluated on the second and sixth day after surgery. The study demonstrated there was no significant difference in overall outcome between the 3 groups. However, on macroscopic examination, the mixture of antibiotic and fibrin adhesive decreased formation of adhesions and abscesses. Microscopically, there was decreased inflammation, improved granulation, and earlier onset of fibrin filament deposition, possibly leading to enhanced wound healing. The addition of gentamicin to fibrin sealant can be a useful adjunct to standard surgical closure in duodenal fistula management.