

Combination of fibrin glue with growth hormone augments healing of incomplete intestinal anastomoses in a rat model of intra-abdominal sepsis: A dynamic study.

Authors: Li Y., Bao Y., Jiang T., Tan L., Liu F., Li J.

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Abstract:

This study was devised to investigate whether fibrin glue (FG) in combination with growth hormone (GH) could have a beneficial effect at a late period (14 days) after injury. Male Wistar rats, with abdominal sepsis induced by an incomplete anastomosis, were divided into three groups. In the control group, the rats got incomplete anastomoses sutured alone; in the FG and FG/GH groups, anastomoses protection was performed with application of FG alone or in combination with GH. The anastomotic bursting pressure (ABP) was significantly higher in the FG/GH group than that of the FG group on postoperative day (POD) 5 ($p < .01$), while it could not be measured from POD 7 to POD 14 because of intestinal dehiscence. There was no difference between FG and FG/GH group on POD 3 and POD 5 in anastomotic tensile strength, which was significantly higher in the FG/GH group than that of the FG group from POD 7 to POD 14 ($p < .001$). Hydroxyproline content of the FG/GH group was significantly higher than that of the control from POD 3 and that of the FG group from POD 5 ($p < .05$). Combination of FG with GH had a synergistic effect to improve intestinal anastomotic healing over a limited 14-day course of observation.