

Fibrin sealant for mesh fixation in Lichtenstein repair: biomechanical analysis of different techniques.

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Abstract:

BACKGROUND: Mesh fixation using sealants is becoming increasingly popular in hernia surgery. Fibrin sealant is an atraumatic alternative to suture or stapler fixation and is currently the most frequently used sealant. There are currently no biomechanical data available for evaluation of the quality of adhesion achieved with fibrin sealant during Lichtenstein hernia repair.

METHODS: Five different suture and sealant techniques were evaluated and compared during simulated Lichtenstein hernia repair in an established, standardised biomechanical model for abdominal wall hernias.

RESULTS: Significantly greater stability was achieved with fibrin sealant fixation of meshes than with point-by-point suture fixation. Fibrin adhesion protected meshes from dislocation at least as well as suture fixation with additional running-suture closure of the hernia orifice. Fibrin mesh fixation combined with additional support from running-suture hernia closure was significantly ($P < \text{or} = 0.002$) superior to all other methods.

CONCLUSIONS: On the basis of these favourable biomechanical properties, mesh fixation using fibrin sealant can be recommended for use in onlay repair of transinguinal hernias.