Fibrin sealing versus stapling of hernia meshes in an onlay model in the rat.

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Abstract:

Incisional and inguinal hernia repair are among the most common procedures of general surgery. Mesh fixation by means of staples or sutures may lead to severe complications. The use of fibrin sealant (FS) has been suggested as alternative, but data on biocompatibility and adhesive strength of FS in combination with macroporous meshes is limited. Ventral hernia (n = 8 per group) was treated in rats in onlay technique with two types of meshes, fibrin sealed or stapled. TI-Mesh (TMxl) extralight and VYPROII (VPII) were tested 17 days post op. No failure in mechanical tests (tensile and burst strength) occurred in sealed or stapled meshes. Histology revealed equally good tissue integration and neovascularization in all groups. Fibrin sealant yields excellent fixation in experimental hernia repair. This rat model is suitable for testing meshes and fixation techniques.