The ineffectiveness of fibrin glue and cyanoacrylate on fixation of meniscus transplants in rabbits.

Authors: Reckers L.J., Fagundes D.J., Cohen M.

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Abstract:

Our aim was to evaluate whether a fibrin glue and octyl-cyanoacrylate can promote fixation of meniscal allograft in rabbits. The medial menisci of 18 rabbits were frozen and stored at - 73 degreeC (30 days) and then was allotransplantation and fixed by: GSu (n = 6) soft tissue; GFi (n = 6) fibrin glue; GCy (n = 6) cyanoacrylate. They were evaluated by daily surgery recovery score (4 weeks), gross inspection and cells density on scaffold. A severe inflammatory response with caseous necrosis from the inside of the joint on through the approach incision led us to an early sacrifice (16th day) of all animals of GCy. The daily score of recovery was similar in both groups GSu and GFi, with a peak of 40% of mild suffering score in the 12th day. At the 4th week in all animals of GFi the menisci were loose into the joint and the density of cells of collagen matrix was significantly fewer ($p < 0.001$) than the GSu. The octyl-cyanoacrylate adhesive was totally inadequate for use on fixation of an allograft implant due to the severe inflammatory response. The fibrin glue was inappropriate to promote the allograft fixation and subsequently impaired the cells spread into the collagen matrix of allograft implant. © 2008 Elsevier B.V. All rights reserved.