

Vascularization of conjunctival autografts in pterygium surgery: comparison of fibrin glue with sutures.

Authors: Kucukerdonmez C, Karalezli A, Zengin MO, Akova YA

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Abstract:

PURPOSE: To monitor the development of graft vascularization after pterygium excision with conjunctival autograft transplantation (CAT) using indocyanine green angiography (ICGA) and to compare the graft vascularization between 2 different fixation techniques (fibrin glue and sutures).

METHODS: A total of 26 eyes of 26 patients with primary pterygium were randomly assigned after pterygium excision as having either fibrin glue (13 eyes) or Vicryl sutures (13 eyes) for CAT. Anterior segment ICGA findings were evaluated postoperatively at 1, 7, and 15 days and the percentages of graft vascularization in both groups were compared using pixel analysis software program.

RESULTS: The mean \pm SD age of patients in the suture and fibrin glue groups was 52.1 \pm 12.7 years and 57.1 \pm 9.82 years, respectively. There was no statistically significant difference between the groups regarding age, sex, or follow-up ($p < 0.05$ for all). Also, the mean intraoperative defect size was not significantly different between the groups, which was measured as 20.11 \pm 10.44 mm² in the suture group and 23.44 \pm 12.34 mm² in the fibrin glue group ($p = 0.343$). The mean percentage of vascularized graft area at postoperative day 1 and 7 was 18.1 \pm 7.8% and 25.3 \pm 8.6% in the suture group and 34.8 \pm 10.2% and 66.1 \pm 17.8% in the fibrin glue group. The difference between the groups was statistically significant ($p < 0.01$ for both). At postoperative day 15, all grafts were 100% perfused in both groups.

CONCLUSIONS: Fibrin glue fixation of conjunctival autografts led to more vascularization in the early postoperative period than suture fixated grafts, which in turn may have significance in terms of graft health and pterygium recurrence.