Evicel versus Tisseel versus Sutures for Attaching Conjunctival Autograft in Pterygium Surgery: A Prospective Comparative Clinical Study.

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Abstract:

PURPOSE: To evaluate the outcome of pterygium surgery with conjunctival autograft using Vicryl sutures (Ethicon, NJ), Evicel fibrin glue (Omrix Biopharmaceuticals Ltd, Ramat-Gan, Israel), or Tisseel fibrin glue (Baxter Corp., Deerfield, IL).

DESIGN: Prospective, randomized study.

PARTICIPANTS: Eighty-nine adult patients with primary pterygium.

METHODS: Patients undergoing pterygium surgery with conjunctival autografting were randomized into groups receiving 10-0 Vicryl sutures, Evicel fibrin glue, or Tisseel fibrin glue.

MAIN OUTCOME MEASURES: Duration of surgery, level of patient discomfort, visual acuity (VA), surgically induced refractive change (SIRC), complications, and pterygium recurrence.

RESULTS: Eighty-nine patients participated: 25 in the Vicryl group, 29 in the Evicel group, and 35 in the Tisseel group. The patients' preoperative characteristics were similar in all groups. Fashioning and repositioning of the conjunctival autograft (flap time) was significantly shorter in the fibrin glue groups compared with the Vicryl group: 5.46 minutes for Evicel, 3.6 minutes for Tisseel, and 16.72

minutes for sutures (P < 0.0001). The patient discomfort level during the first postoperative day was significantly lower in the fibrin glue groups compared with the suture group (P = 0.047). There were no significant group differences in the change in logarithm of the minimum angle of resolution VA before surgery and 3 months after surgery (P = 0.7). There were also no significant group differences in the SIRC (P = 0.108). The recurrence rate was 17.24% in the sutures group, 4.17% in the Evicel group, and 0% in the Tisseel group (P = 0.027 sutures vs. fibrin glue groups). Complications included 5 cases of conjunctival graft dislocation in the Evicel group, 1 case of pyogenic granuloma in the Tisseel group, and no complications in the sutures group (P = 0.019 sutures vs. fibrin glue groups).

CONCLUSIONS: Tisseel fibrin glue for the repositioning of conjunctival autografts in pterygium surgery was associated with a similar functional outcome as that of Vicryl sutures in terms of VA and SIRC. Pterygium recurrence, patient discomfort level, and surgery time were reduced markedly, as were flap dislocation and pterygium recurrence with Tisseel fibrin glue compared with Evicel fibrin glue.