

Fibrin glue versus sutures for conjunctival autografting in primary pterygium surgery.

Authors: Romano V., Cruciani M., Conti L., Fontana L.

Publication Date: 2016

Abstract:

Background: Pterygium, a growth of the conjunctiva over the cornea, is a progressive disease leading in advanced stages to visual impairment, restriction of ocular motility, chronic inflammation and cosmetic concerns. Surgical removal is the treatment of choice, but recurrence can be a problem. Currently the best surgical option in terms of recurrence is conjunctival autograft. To date the most common surgical methods of attaching conjunctival autografts to the sclera are through suturing or fibrin glue. Each method presents its own advantages and disadvantages. Sutures require considerable skill from the surgeon and can be associated with a prolonged operation time, postoperative discomfort and suture-related complications, whereas fibrin glue may give a decreased operation time, improve postoperative comfort and avoid suture-related problems.

Objectives: To assess the effectiveness of fibrin glue compared to sutures in conjunctival autografting for the surgical treatment of pterygium. **Search methods:** We searched CENTRAL (which contains the Cochrane Eyes and Vision Trials Register) (2016, Issue 9), Ovid MEDLINE, Ovid MEDLINE In-Process and Other Non-Indexed Citations, Ovid MEDLINE Daily, Ovid OLDMEDLINE (January 1946 to October 2016), Embase (January 1980 to October 2016), the ISRCTN registry (www.isrctn.com/editAdvancedSearch), ClinicalTrials.gov (www.clinicaltrials.gov), and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) (www.who.int/ictrp/search/en). We did not use any date or language restrictions in the electronic searches for trials. We last searched the electronic databases on 14 October 2016. **Selection criteria:** We included randomised controlled trials (RCTs) in any setting where fibrin glue was

compared with sutures to treat people with pterygium. Data collection and analysis: Two review authors independently screened the search results, assessed trial quality, and extracted data using standard methodological procedures expected by Cochrane. Our primary outcome was recurrence of pterygium defined as any re-growth of tissue from the area of excision across the limbus onto the cornea. The secondary outcomes were surgical time and complication rate. We graded the certainty of the evidence using GRADE. Main results: We included 14 RCTs conducted in Brazil, China, Egypt, India, Malaysia, New Zealand, Philippines, Saudi Arabia, Sweden and Turkey. The trials were published between 2004 and 2016, and were assessed as a mixture of unclear and low risk of bias with three studies at high risk of attrition bias. Only adults were enrolled in these studies. Using fibrin glue for the conjunctival autograft may result in less recurrence of pterygium compared with using sutures (risk ratio (RR) 0.47, 95% CI 0.27 to 0.82, 762 eyes, 12 RCTs; low-certainty evidence). If pterygium recurs after approximately 10 in every 100 surgeries with sutures, then using fibrin glue may result in approximately 5 fewer cases of recurrence in every 100 surgeries (95% CI 2 fewer to 7 fewer cases). Using fibrin glue may lead to more complications compared with sutures (RR 1.92; 95% CI 1.22 to 3.02, 11 RCTs, 673 eyes, low-certainty evidence). The most common complications reported were: graft dehiscence, graft retraction and granuloma. On average using fibrin glue may mean that surgery is quicker compared with suturing (mean difference (MD) -17.01 minutes 95% CI -20.56 to -13.46), 9 RCTs, 614 eyes, low-certainty evidence). Authors' conclusions: The meta-analyses, conducted on people with pterygium in a hospital or outpatient setting, show fibrin glue may result in less recurrence and may take less time than sutures for fixing the conjunctival graft in place during pterygium surgery. There was low-certainty evidence to suggest a higher proportion of complications in the fibrin glue group.