

Autologous Blood for Conjunctival Autograft Fixation in Primary Pterygium Surgery: a Systematic Review and Meta-Analysis

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Abstract : Autologous Blood for Conjunctival Autograft Fixation in Primary Pterygium Surgery: A Systematic Review and Meta-analysis Hossam Zein^{1,2}, Ammar Ismail^{1,3}, Mohamed Abdelmongy^{1,4}, Sherif Elsherif^{1,5,6}, Ahmad Hassanen^{1,4}, Basma Muhammad², Fathy Assaf^{1,3}, Ahmed Elsehili^{1,7}, Ahmed Negida^{1,7}, Shin Yamane⁹, Mohamed M. Abdel-Daim^{8,9} and Kazuaki Kadonosono⁹ <https://www.ncbi.nlm.nih.gov/pubmed/30277146> BACKGROUND: Pterygium is a benign ocular lesion characterized by triangular fibrovascular growth of conjunctival tissue over the cornea. Patients complain of the bad cosmetic appearance, ocular surface irritation and decreased visual acuity if the pterygium is large enough to cause astigmatism or encroach on the pupil. The definitive treatment of pterygium is surgical removal. However, outcomes are compromised by recurrence. The aim of the current study is to systematically review the current literature to explore the efficacy and safety of fibrin glue, suture and autologous blood coagulum for conjunctival autograft fixation in primary pterygium surgery. OBJECTIVES: To assess the effectiveness of fibrin glue compared to sutures and autologous blood coagulum in conjunctival autografting for the surgical treatment of pterygium. METHODS: During preparing this manuscript, we followed the steps adequately illustrated in the Cochrane Handbook for Systematic Reviews of Interventions version 5.3, and reported it according to the preferred reporting of systematic review and meta-analysis (PRISMA) statement guidelines. We searched PubMed, Ovid (both through Medline), ISI Web of Science, and Cochrane Central Register of Controlled Trials (Central) through January 2017, using the following keywords "Pterygium AND (blood OR glue OR suture)" SELECTION CRITERIA: We included all randomized controlled trials (RCTs) that met the following criteria: 1) comparing autologous blood vs fibrin glue for conjunctival autograft fixation in primary pterygium surgery 2) comparing autologous blood vs sutures for conjunctival autograft fixation in primary pterygium surgery 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. The extracted data included A) study design, sample size, and main findings, B) Baseline characteristics of patients included in this review including their age, sex, pterygium site and grade, and graft size. C) Study outcomes comprising 1) primary outcomes: recurrence rate 2) secondary outcomes: graft stability outcomes (graft retraction, graft displacement), operation time (min) and postoperative symptoms (pain, discomfort, foreign body sensation, tearing) MAIN RESULTS: We included 7 RCTs and The review included 662 eyes (Blood: 293; Glue: 198; Suture: 171). we assess the 1) primary outcomes: recurrence rate 2) secondary outcomes: graft stability outcomes (graft retraction, graft displacement), operation time (min) and postoperative symptoms (pain, discomfort, foreign body sensation, tearing) CONCLUSIONS: Autologous blood for conjunctival autograft fixation in pterygium surgery is associated with lower graft stability than fibrin glue or sutures. It was not inferior to fibrin glue or sutures regarding recurrence rate. The overall quality of evidence is low. Further well designed RCTs are needed to fully explore the efficacy of this new technique.

Keywords : pterygium, autograft, ophthalmology, cornea

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