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Comparison amongst scleral, corneal and amniotic membrane grafts to restore scleral thinning secondary to pterygium surgery with betatherapy

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INTRODUCTION: Scleral thinning may occur secondary to different ocular surface conditions, especially in rheumatologic diseases and after surgeries as in pterygium. There are different methods to treat this condition, as to use scleral, corneal and more recently amniotic membrane graft.

PURPOSE: To evaluate the use of preserved scleral, corneal and amniotic membrane graft for the surgical repair of scleral thinning of different sizes in patients underwent surgery of pterygium with associated betatherapy .

METHODS: Prospective, comparative, randomized, interventional study of twenty nine eyes of twenty eight patients (one bilateral case) with scleral thinning after betatherapy. The mean age was 64,5 (47-82), 16 were female and 12 male. All patients were operated by the same surgeon and the surgical procedure was randomized in scleral, corneal or amniotic membrane graft. Nine patients underwent surgery with scleral graft that was covered by conjunctival flap; ten with corneal graft and ten with amniotic membrane transplantation. Patients were followed for 180 days.

RESULTS: All the eyes that received scleral and corneal grafts presented stability of ocular surface with rapid reepithelialization of the ocular surface; on the other hand, the eyes that received the amniotic membrane grafts had the transplanted tissue absorbed on average after 30 d of follow up. There were a few complications related to the procedures: two patients developed fornix foreshortening, one patient had a scleral perforation, one patient had a small laceration of the choroid and two patients had corneal melting after 15 days of post operative, probably due to rheumatologic disease.

CONCLUSION: Our results suggest that both scleral and corneal grafts are good options to be used for restoring scleral defects with thinning.