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Total or subtotal replacement of tarsal plate by silicone plate for upper eye lid reconstruction in malignant tumors

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Purpose: To evaluate the cost, safety, surgical outcome and efficacy of cutler beard eyelid reconstruction utilizing a silicone plate for tarsal plate replacement in the repair of 70-100% eyelid defects following excision of large malignant tumors.

Methods: Prospective, non-comparative, interventional case study of eight eyes of eight patients over a period of eighteen months. Five patients were female; three patients were male. In all cases, a silicone plate from a commercially available sceral buckle was utilized for total or subtotal replacement of the tarsal plate. The created defect was measured in mm (length and width) and later expressed in percentage. Pre and post-operative action of levator palpebrae superioris (LPS) were measured. Pre and post-operative measurement of margin to reflex distance (MRD1) were also noted.

Results: Upper eyelid reconstruction was successful in all patients without complications. The follow-up period ranged from six months to two years. Pre-

operative levator palpebrae superioris (LPS) action ranged from 0-4 mm, while post-operative LPS action was 12-14 mm. Pre-operative margin-to-reflex distanced (MRD1) ranged from -4 mm to -1 mm, while post-operative MRD1 was +3 to +4 mm.

Conclusions: The synthetic silicone plate made from a retinal buckle was successful as a tarsal plate replacement in combination with a cutler beard procedure for reconstruction of large eyelid defects after excision of large tumors. Second surgical site for ear cartilage harvesting is avoided. Further the utilization of an allograft from cadaver transfer of achilles tendon carries the risk of transmission of communicable diseases like hepatitis B and HIV which is not present with an artificial material. Additionally, silicone is an inert, non-reacting, tissue tested material, thus eliminating the possibility of graft rejection. Silicone plate should be considered as a material of choice for tarsal plate replacement.

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