
Amniotic Membrane Transplantation In Ocular Surface Disorders

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What makes the human amniotic membrane suitable as a surgical material in the treatment of ocular surface disorders, where there is excessive fibrosis of the tissues viz; Ocular Cicatricial Pemphigoid, Steven-Johnson syndrome and recurrent pterygium where there may be symblepharon formation and limited ocular motility, is the fact that amniotic possesses a very strong antifibrotic and antivascularization effects. Amniotic membrane transplantation is also of benefit in the treatment of surface epithelial defects resulting from various causes viz; chemical and thermal injuries, dry eye syndromes, bullous keratopathy and in persistent corneal epithelial defects associated with neurotrophic ulcer. This is due to the production of various growth factors by the membrane that promote epithelial healing. The amniotic membrane's basement membrane was found to stimulate the typical differentiation of the cells that migrate over it, hence its use to cover corneal or conjunctival defects. The pain reduction and anti-inflammatory effects of the membrane helped to alleviate pain in cases of symptomatic bullous keratopathy where the pain completely disappeared in 90% of cases in the first post-operative day. Amniotic membrane transplantation was found to be superior to other methods used before in the treatment of various ocular surface disorders viz; buccal and nasal mucosal grafting as it does not cause any rejection after its transplantation and it does not cause a persistent reddish discoloration of the conjunctiva after being transplanted. On the contrary, the transplanted tissue is abundant, there is no surgical limit to the size of the graft taken, and its color after transplantation is almost indistinguishable from the surrounding host conjunctival tissue. Amniotic membrane transplantation alone, however, was not very promising in treating cases of corneal perforation and deep corneal ulcer, as the membrane melted and gradually absorbed. Multi-layer amniotic membrane and AMT with tissue adhesive are more promising in the treatment of deep as well as perforated corneal ulcer. All the above-described indications for amniotic membrane transplantation AMT are summarized below.