

Introduction

Amniotic membrane (AM), the inner most layer of fetal membrane, has been used first by de Roth as surgical material since 1940. It consists of a single layer of epithelial cells that are attached to a thick basement membrane, and an avascular stromal matrix. It is considered to be immunologically inert and to possess several physiologic properties, including inhibition of scarring, inflammation, and angiogenesis, antimicrobial properties and providing a substrate for epithelial cell growth and attachment both in vivo and in vitro (*Dua et al., 2004*).

Processing and preparation of the AM is carried out under sterile conditions. Types of methods used in the preservation of the membrane include cryopreserved, dried, lyophilized and cross linked membrane (*Dua et al., 2004*).

The AM has wide varieties of uses in ophthalmic surgeries including: ocular surface reconstruction in limbal stem deficiency (LSCD) with or without limbal stem cell transplantation (LSCT), conjunctival reconstruction in pterygium surgeries, after excision of ocular surface neoplasia and chemical injuries (*Dua et al., 2004*).

The amniotic membrane transplantation (AMT) can be used in cases of bullous keratopathy, persistent corneal epithelial defects, corneal perforation, band keratopathy and in repair of a large scleral perforation (*Dua et al., 2004*). It is used to decrease corneal haze after excimer laser keratectomy (*Woo et al., 2001*) and for healing and recovery of visual acuity in a variety of corneal ulcers (*Heiligenhaus et al., 2008*).

AM has been used also in glaucoma surgery to prevent adhesions in trabeculectomy (*Fujishima et al., 1998*), for treatment of leaking trabeculectomy blebs (*Budenz et al., 2000*), to restore ocular surface integrity following glaucoma surgery (*Pires et al., 2000*) and in treatment of tube erosion that occur after tube shunt surgery.

It also has been used in oculoplastic procedures such as punctual occlusion; entropion (*Murube et al., 1995*). It is used also for reconstruction of contracted eye socket with AM graft (*Poonyathalang et al., 2005*).

AMT may be useful adjunct in strabismus surgery as a means to decrease adhesions (*Sheha et al., 2010*). Also it appears to be useful for treatment of fat adherence syndrome after buckling surgery.