Amniotic membrane in oral and maxillofacial surgery.

Abstract:
Following its renaissance in ophthalmology during the 1990s, preserved human amniotic membrane (HAM) has become an attractive biomaterial for all surgical disciplines. This article reviews the current and potential use of HAM in oral and maxillofacial surgery, its postulated properties and common preservation techniques. Literature was identified by an electronic search of PubMed in July 2012; this was supplemented from the reference lists of the consulted papers. HAM has been used in the field of oral and maxillofacial surgery from 1969 onwards because of its immunological preference and its pain-reducing, antimicrobial, mechanical and side-dependent adhesive or anti-adhesive properties. The effects of HAM on dermal and mucosal re-epithelialisation have been highlighted. Typically, HAM is applied after being banked in a glycerol-preserved, DMSO-preserved or freeze-dried and irradiated state. Whereas the use of HAM in flap surgery and in intra-oral and extra-oral lining is reported frequently, novel HAM applications in post-traumatic orbital surgery and temporomandibular joint surgery have been added since 2010. Tissue engineering with HAM is a fast-expanding field with a high variety of future options. Preserved HAM is considered to be a safe and sufficient biomaterial in all fields of oral and maxillofacial wound healing. Recently published novel indications for HAM application lack a high level of evidence and need to be studied.