BUCCAL MUCOSAL EPITHELIUM FOR TREATMENT OF OCCULAR SURFACE AND CORNEAL RECONSTRUCTION

Executive Summary

[Adapted from the report by NOORMAH MOHD DARUS]

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Introduction

The cornea is covered by nonkeratinized, stratified epithelium that is responsible for maintaining ocular surface integrity and is essential for vision. In severe ocular surface diseases, such as Stevens-Johnson syndrome (SJS) and ocular cicatricial pemphigoid (OCP), in which limbal epithelial cells are destroyed, resulting in limbal stem cell deficiency (LSCD). With unilateral LSCD, autologous transplantation of limbal tissues obtained from the healthy fellow eye can be used. Bilateral involvement, however, necessitates harvesting of allogenic grafts requiring postoperative immunosuppression to prevent allograft rejection. Recently, a new method of ocular surface reconstruction, autologous cultivated oral mucosal epithelial transplantation (COMET), has been reported in the treatment of patients with bilateral LSCD. This new approach negates the need for postoperative immunosuppressive therapy.

This review was requested by the Malaysian [redacted] following a request to introduce the use of oral mucosa epithelial for the treatment of ocular surface and corneal reconstruction in the hospitals in Malaysia.

Objective/Aim

To assess the effectiveness, safety and cost-effectiveness of ocular surface and corneal reconstruction using autologous cultivated oral mucosal epithelial transplantation in the hospitals in Malaysia.

Results and Conclusions

Based on the above review, there was low level of retrievable evidence to support the effectiveness of ocular surface and corneal reconstruction using autologous cultivated oral mucosal epithelial transplantation. Most of the studies were case reports and small in numbers, some were on animal studies. There was no retrievable evidence on safety and cost-effectiveness this technology. Evidence indicates that this technology is under experimental stage. Long-term follow-up and experience with a large series of patients are needed to assess further the benefits and risks of this method, which offers the potential to treat severe ocular diseases that are resistant to standard approaches. Since the procedure for this technology was relatively new, it is too early for long term results regarding the longevity of the improved corrected vision.

Methods

Literatures were searched through electronic databases specifically PubMed/Medline, Cochrane, INAHTA and also in general databases. The search strategy used the terms, which are either singly or in various combinations: " Buccal mucosal epithelium for cornea", "treatment of ocular surface", "corneal reconstruction", "corneal epithelial disease", safety, effectiveness and cost effectiveness either singly or in combination with the limits to **humans and English.** In addition websites for existing HTA agency, society websites and cross-referencing of the articles retrieved were also carried out accordingly to the topic.

A critical appraisal of the retrieved papers was performed and the evidence level was graded according to the US/Canadian Preventive Services Task Force.