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Title **UMBILICAL CORD SERUM EYE DROPS FOR SEVERE OCULAR DISEASE**

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Aim

The objective of this systematic review was to assess the effectiveness, safety and cost- effectiveness of using umbilical cord blood serum eye drops for the treatment of ocular surface disorders.

Conclusions and results

A total of 353 titles were identified through the Ovid interface and PubMed. Ten articles related to the treatment of severe ocular surface diseases using UCS eye drops was included in this review consisting of two randomised controlled trial, one non-randomised clinical trial and seven interventional studies. The studies were conducted in Korea, Italy, India and Turkey.

From the above review it was found that there was fair to high level of evidence to show that UCS eye drops may have potential in the treatment of severe ocular surface diseases such as dry eye syndrome, corneal epithelial defect, neurotrophic keratitis, acute ocular chemical burns and after laser epithelial keratomileus. The majority of the studies were of controlled trials and interventional studies. However, most of the studies were limited by the small number of subjects and the short duration of study. Two randomised controlled trials comparing UCS eye drops versus AS drops showed better improvement using the UCS eye drops. From the studies the authors suggested that UCS eye drops were safe. The UCS eye drops manufacturing need to be done by a certified laboratory and personals who can handle the preparation. Issue of consent from patients who agree to donate cord blood, the testing for infectious diseases such as HIV, Hepatitis C, syphilis etc. also need to be addressed.

The estimated cost for 40 x 1ml of segmented UCS eye drops produced by the Cord Blood Bank Division, National Blood Centre is about RM152.20 for one patient (The estimation cost does not include labour cost, equipment charges and maintenance charges).

Recommendations (if any)

Umbilical Cord Serum eye drops may have the potential for the treatment of severe ocular surface diseases such as dry eye syndrome, corneal epithelial defect, neurotrophic keratitis, acute ocular chemical burns and after laser epithelial keratomileus.

However, since most of the studies were limited by the small number of subjects and the short duration of study, we suggest the use of the UCS eye drops in a research environment, on selected patients and in hospitals with corneal centres such as Hospital Kuala Lumpur and Hospital Sungai Buloh. The production of the UCS eye drops should be done centrally by a certified laboratory and trained personals taking into consideration the transmission of blood-borne infections or blood-borne diseases, bacterial contamination and allergy.

Methods

Electronic databases were searched through the Ovid interface: Ovid MEDLINE® In-process and other Non-indexed citations and Ovid MEDLINE® 1948 to present, EBM Reviews - Cochrane Central Register of Controlled Trials – August 2015, EBM Reviews - Cochrane Database of Systematic Reviews - 2009 to August 2015, EBM Reviews - Health Technology Assessment – 2nd Quarter 2015, EBM Reviews - Database of Abstracts of Reviews of Effects – 2nd Quarter 2015, EBM Reviews – NHS Economic Evaluation Database 2nd Quarter 2015, Embase – 1988 to 2015 week 35. Searches were also run in PubMed. Google was used to search for additional web-based materials and information. No limits were applied. Additional articles were identified from reviewing the references of retrieved articles. Last search was conducted on 1st September 2015.

Further research/reviews required

Clinical research may provide more conclusive evidence on the effectiveness for its

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