INTRODUCTION

Stem cell have attracted considerable attention recently, not only as a mean of understanding metazoan development but also as potential therapeutic agents for spectrum of currently untreatable disease ***(Klassen et al., 2004).***

Stem cells are cells that can proliferate with almost unlimited potential, maintaining a pool of a growing & dividing cells, with the added ability that some of the daughter cells can differentiate in to specific cell types ***(Prentice, 2001).***

The importance of limbal stem cells in the maintenance of corneal epithelium has long been recognized and such cells are now used clinically for repair of severely damaged cornea such as chemical and thermal burns, Steven Johnson Syndrome and ocular pemphigoid ***(Boulton and Albon, 2004).***

The corneal stem cell deficiency can be managed with auto or allo transplantation of these cells, with latter option, system immune suppression is required. The stem cells can expend ex vivo on a processed human amniotic membrane and transplanted back to the ocular surface with stem deficiency without the need of immune suppression ***(Sangwan, 2001).***

Recent studies have identified progenitor cells in the retina and ocular vasculature. The identification of retinal progenitor cells in adult retina open the possibility that these cells have potential for transplantation in retinal degeneration such as retinitis pigmentosa and age-related macular degeneration ***(Ali and Sowden, 2003).***

Some studies have shown that adult embryonic progenitor cells can be transplanted into the retina and do form a variety of rudimentary retinal cells ***(Yang et al., 2002).***

Recent studied have indicated that better survival and integration occurs when human fetal retinal tissue was transplanted in combination with retinal epithelium ***(Aramant and Seller, 2003).***

AIM OF THE WORK

Is to review the role of stem cell transplantation in the management of ocular surface and retinal disorders.