

**OR-70****Edible Bird's Nest Extract Potentiates the Closure of *In Vitro* Corneal Epithelial Defect**

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Persistent epithelial defect is associated with delayed wound healing secondary to ineffective conventional treatment. Researches on natural products have produced promising results for better treatment options. Edible bird's nest (EBN) has been scientifically proven to be able to induce cell division and promote regeneration, but there has been no research done to see its effects on corneal cells. This study was done to investigate the effects of EBN in promoting corneal wound healing using a monolayer cell culture model. Corneal epithelial cells (CEC) were isolated from six New Zealand White rabbits and cultured until Passage 1. The cells were then divided into four different groups using two different media; the standard medium (CM) and basal medium (BM) with or without supplementation of 0.05% EBN extract. A corneal wound was created by using a 4 mm corneal trephine in each well-plate to mimic the corneal defect. The progress of wound healing was assessed through migration study. RT-PCR of genes associated with corneal epithelial wound healing (fibronectin, CD44 and Cytokeratin 3 (CK3)) were done to measure the expression level, and the protein expressions were further confirmed by immunocytochemistry. Cell migration study revealed the fastest wound closure occurred in culture using CM+0.05% EBN. Gene expression of fibronectin and CD44 were significantly reduced while CK3 expression was significantly increased in CEC cultured in CM+0.05% EBN. Only CD44 and CK3 proteins were detected in epithelial cells cultured in CM with 0.05% EBN while fibronectin was not detected. In conclusion, supplementation of EBN extract at 0.05% concentration in CEC culture media could promote cell migration, gene expressions and proteins associated with corneal wound healing.

**Keywords:** Edible Bird's Nest, cornea, wound healing, migration study, gene expression.

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