

Propolis May Help Restore Corneal Clarity



Inhibition of Corneal Neovascularization with Propolis Extract

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Neovascularization of the normally avascular cornea is seen in many pathological conditions including trauma, corneal transplantation, inflammation and eye diseases. Various growth factors and proteinases are involved in corneal neovascularization. Data supporting a causal role for vascular endothelial growth factor (VEGF) and matrix metalloproteinases (MMPs) are extensive.

Inhibition of angiogenesis is a main strategy for treating corneal neovascularization. Several findings have shown that corneal neovascularization can be reduced by using anti-VEGF and anti-MMPs agents.

Efficacy of a propolis extract has been demonstrated for reducing angiogenesis in vitro and in vivo. Propolis extracts containing artepillin C and caffeic acid phenyl ester significantly reduced the number of newly formed vessels and expression of MMPs and VEGF production from various cells.

So far, propolis extract is a potential candidate as an anti-angiogenic agent and can inhibit cell proliferation, migration and capillary tube formation. We hypothesize that topical application of propolis is potentially useful for inhibiting corneal neovascularization and restoration of corneal clarity