

## Immunohistochemical detection of progenitor cells in pterygium

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Pterygium is a degenerative and hyperplastic ocular surface disorder characterized by excessive cell proliferation, inflammation, fibrosis, extracellular matrix remodelling and angiogenesis. Several factors have been thought to be involved in the development of pterygium, however the exact mechanism of its pathogenesis is still unclear.

Nestin is almost an acronym for “neuroepithelial stem cell protein”. It is an intermediate filament (IF) protein expressed in proliferating cells during the developmental stages in a variety of embryonic and fetal tissues. It is also expressed in some adult stem/progenitor cell populations, such as newborn vascular endothelial cells and it is reactivated in response to injuries or other pathological conditions.

CD34 is a hematopoietic progenitor antigen expressed on hematopoietic progenitors as well as on small vessels endothelial cells and embryonic fibroblasts. CD34 is thought to function as an adhesion molecule for early hematopoietic progenitors mediating the attachment of stem cells to extracellular matrix or stromal cells.

Some authors have already demonstrated the presence of some stemness markers in pterygial tissues, suggesting the involvement of bone marrow originated stem cells in the pathogenesis of pterygium. The aim of the present study was to evaluate, by immunohistochemistry on formalin-fixed and paraffin embedded sections of primary pterygium, the presence of some more stem cells markers, such as nestin and CD34 in order to support the classification of pterygium as proliferative disorder.

The results will be discussed.

Keywords: Pterygium, nestin, CD34, immunohistochemistry.