

Immunohistochemical detection of Vitamin D receptor in pterygium

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Pterygium is a chronic condition characterized by the encroachment of altered conjunctiva into the normal cornea. Several factors have been proposed as causative agents in the development of pterygium, however the exact mechanism of its pathogenesis is still unclear, even if several investigators consider pterygium an ultraviolet radiation (UV)-related disease. It is a relatively benign process, but since it displays tumor-like features, it has been proposed to be a neoplastic-like growth disorder (1).

Vitamin D performs a number of functions outside of calcium homeostasis. Vitamin D status has been inversely associated with risk for various cancer, since Vitamin D inhibits cell proliferation, activates apoptotic pathways, inhibits angiogenesis, and exerts pro-differentiative effects in a wide variety of cancers (2). Since the antitumor actions of vitamin D are mediated primarily through Vitamin D receptor (VDR), and little is known about this subject in pterygium, the knowledge of VDR status may be important in understanding the pathogenesis of the disease.

Keeping in mind all pathogenetic pterygium features, such as excessive cell proliferation, inflammation, fibrosis, extracellular matrix remodelling and intense neovascularization, we might suppose an alteration in the Vitamin D pathway. Therefore, the purpose of the study was to demonstrate, by immunohistochemistry on formalin-fixed and paraffin embedded sections of primary pterygium, the presence of VDR in pterygium, and to correlate it with the serum level of Vitamin D, in order to evaluate a possible role of Vitamin D pathway in the pathogenesis of the disease.

The results will be discussed.

References

- [1] Liu T et al. (2013) Progress in the pathogenesis of pterygium. *Curr Eye Res.* 38(12):1191-7.
- [2] Pils S. et al. (2009) Epidemiology of vitamin D insufficiency and cancer mortality. *Anticancer Res* 29:3699-3704.

Keywords

Pterygium; Vitamin D receptor (VDR); immunohistochemistry.