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Identification of telocytes in the lamina propria of pterygium: an immunohistochemical and transmission electron microscopy study

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Telocytes (TCs) are a novel type of interstitial cells already described in many tissues and organs (1). The name of these cells derives from their typical thin, long processes called telopodes (Tps). Since previous study provided evidences for TCs involvement in neoangiogenesis (2), our aim was to examine if TCs may be present also in pterygium, a common degenerative and hyperplastic disorder of bulbar conjunctival, characterized by an intense process of neovascularization. We performed a morphological and immunohistochemical analysis by light microscopy of thin and semithin sections and an ultrastructural study by transmission electron microscopy (TEM). Our results showed cells resembling TCs, most with very thin, long and irregular processes and typical dichotomic branching pattern. These processes were moniliform because of the alternation of thin segments and small dilatations accommodating caveolae. TCs and TPs appear in close spatial relationship with blood vessels, especially with neoangiogenetic elements. The immunohistochemical analysis, by using the specific markers for telocytes, showed a strong immunoreactivity for both cell body and telopodes in the lamina propria, frequently close to the vessels. This study confirms the presence of telocytes in the connectival stroma of pterygium and their close relationship to the newly formed vessels, but further investigations are required to clarify the role of these cells in pterygium angiogenesis.

References

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Keywords

Telocytes; pterygium; angiogenesis.