

LYMPHATIC VESSELS IN HUMAN EYELIDS: AN IMMUNOHISTOLOGICAL STUDY IN DERMATOCHALASIS AND CHALAZION**M. Aglianó, P. Lorenzoni, N. Volpi, L. Massai, P. Carbotti, M. Fruschelli, M. Muscettola, C. Alessandrini, G. Grasso**

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ABSTRACT

We investigated lymphatic morphology and expression of endothelin (ET-1) axis molecules in human eyelids affected by an inflammatory state (chalazion) and an age-related degenerative condition (dermatochalasis). Lymphatics were immunohistologically detected by D2-40/LYVE-1 staining. Absorbing lymphatic vessels were localized in papillary dermis and around skin appendages with distinctive morphology. In chalazion, D2-40 reactive flattened lymphatic profiles were compressed by inflammatory infiltrate; in dermatochalasis, large fully opened lymphatics were observed, with a significantly wider total area (lymphatic lumina/200x field; $p < 0.05$). The lymphatic density (number/200x field) in the two groups was within the same range. Lymphatic dilation is possibly dependent on reduction and fragmentation of the dermal elastic network as well as of oxytalanic fibers in the papillary dermis of dermatochalasis, as shown by Weigert's reaction. Multifunctional peptide ET-1, involved in vasomotion, inflammation and connective proliferation, was faintly and discontinuously localized on lymphatics, as was its type A receptor. In contrast, the consistent expression of type B receptor indicates that lymphatic endothelium is a physiological target for ET-1, whose effects are modulated by multiple pathophysiological conditions. Thus, vasoactive factors play a role in the physiology of richly vascularized eyelids, and therefore, morphofunctional characterization of lymphatic vessels may be useful in suggesting treatment options.