HISTOTOPOGRAPHY AND AGE PECULIARITIES OF NPY AND VIP IMMUNOREACTIVE NERVE PLEXUS IN THE DOG CORNEA

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Summary. NPY-IR and VIP-IR nerve plexus of dog cornea was formed by thick (21.9-73.0 ?m diameter), medium (7.3-21.8 ?m diameter) and thin (2.19-7.2 ?m diameter) nerve bundles, nerve fibers.

From limbus thick nerve bundles run radially through superficial and intermediate layers of stroma to the central part of cornea. Thick nerve bundles split into medium bundles. Medium nerve bundles and thin nerve bundles cross and cover thick bundles. Medium nerve bundles dominate in superficial stromal layer. They branch repeatedly more into medium and thin nerve bundles in the central and pericentral parts than in the limbal part. Thin nerve bundles split from medium nerve bundles and are located in subepithelium and superficial stromal layer. Several NPY-IR nerve fibres and thin bundles were in epithelium and subepithelium layer of young dogs. Single nerve fibres and several thin bundles were in this layer of adult and old dogs. The architecture of nerve fibres and bundles of VIP-IR nerve plexus was similar to NPY nerve plexus. Single VIP-IR fibres and thin bundles were noticed in epithelium and subepithelium in dogs of all ages. Several VIP-IR thin nerve bundles were found in central and pericentral parts of superficial stromal layer of young dogs. Single VIP-IR thin bundles were observed in the limbal part of this layer of young dogs and in all parts of this layer of adult and old dogs. Single VIP-IR thin nerve bundles were observed in all parts of the intermediate stromal layer of adult and old dogs, but they were not found in young dogs. Single VIP-IR medium bundles were noticed in intermediate stromal layer in dogs of all ages. Several VIP-IR thick bundles were found in the limbal part of intermediate stromal layer in dogs of all ages. No VIP-IR and NPY-IR nerve plexus elements were noticed in stromal deep layer and endothelium in dogs of all ages.

Keywords: dog, cornea, innervation, NPY, VIP