

International Conference on Eye Disorders and Treatment

July 13-15, 2015 Baltimore, USA

Effect of changes in the spatial orientation of the collagen of the basement membrane in the morphogenesis of the epithelium of the corneal during Orthokeratology therapy experiment

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Objective: To study the spatial and structural isomerization components corneal orthokeratology therapy.

Methods: Orthokeratology lenses placed on the right eye of thirty-five rabbits for continuous wear by using blepharorrhaphia Golovin and the other eye was used as control. Animals were removed from the experiment on Day 14 after the start of orthokeratology treatment. The cornea was enucleated eyeballs subjected to histological examination after staining with hematoxylin and eosin by means of light, electron and probe microscopy.

Results: After 14 days, the cornea with hematoxylin and eosin showed that the feature is changing the spatial orientation of the corneal epithelium cells i.e., displacement of the center of the structural unit. This shift is most pronounced in the field changes the spatial structure of the basement membrane collagen. These changes are statistically significant compared to controls ($p < 0.05$). The most pronounced deformation of the structure of collagen was a violation of the polypeptide chain bends and offset the shift in the fibrils.

Conclusions: Collagen is the main structure which determines the orientation of other interstitial elements. It was his spatial changes in the orthokeratology therapy affect cell-cell interactions and morphogenesis of the tissue in the development and growth of the organ.

Biography

Pervykh Svetlana L is an Ophthalmologist in the City Clinical Hospital No. 5 and Assistant Professor at Surgut State University. She received a Certificate in Ophthalmology in 2005 at the Novosibirsk State Medical Academy. She has completed Postgraduate studies in specialty "Histology" in Surgut State University. She has certificates for Pedagogy and Psychology of higher education, Trichology in ophthalmology, botulinoterapii, Essential Human Biology and others. Her area of interest is the attempt of interdisciplinary synthesis of biochemistry, molecular biology, histology and ophthalmology.

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