

Peculiarities of the Pathogenesis and Locoregional Recurrence in Case of Head and Neck Basalioma

*Jelena Moisejenko-Golubovica*¹, *Anna Ivanova*², *Raimonds Karls*³,
*Valerija Groma*⁴, *Kristine Zabudovska*⁵

¹ *Rīga Stradiņš University, Department of Doctoral Studies, Latvia*

² *Rīga Stradiņš University, Department of Oral and Maxillofacial Surgery, Latvia*

³ *Rīga Stradiņš University, Department of Infectology and Dermatology, Latvia*

⁴ *Rīga Stradiņš University, Institute of Anatomy and Anthropology, Latvia*

⁵ *Laser Medicine Clinic, Latvia*

Introduction. Basal cell carcinoma (BCC) is one of the most topical problems of modern oncology. In recent years, the frequency of the disease in many countries has increased, and despite the diversity of treatments BCC recurs in 20–40 % of cases within the first two years, regardless of the chosen method of treatment.

Aim, Materials and Methods. The aim of our research is to study the peculiarities of the pathogenesis and recurrence of BCC in head and neck region, analyzing dermatoscopically and morphologically the tumor and perifocal tissues. Additionally, there was an attempt to recognize recurrent morphological types of the tumor specifying its histological features, and deepening knowledge regarding the risk of recurrence. 28 biopsies obtained as the surgical specimens of patients with BCC were used in this study. Clinically, the nodular, infiltrative, superficial form, and BCC with metaplasia were diagnosed in 11, 7, 5, and 5 cases, respectively. Applying dermatoscope Dermlite DL3N with Pigment Boost function and investigating the skin tumor dermatoscopically, 3 cases revealed clear basosquamous cell carcinoma and 2 cases revealed BCC that evolved on the actinic keratosis, and histologically were interpreted as BCC with metaplasia. Histologically, a standard immunohistochemistry recognizing the components of the basement membrane – laminin and collagen type IV – was performed.

Results. Conducting this pilot study based on morphological and dermatoscopical observations, it was established that the dermatoscopical application alone can distinguish BCC with and without metaplasia based on various dermatoscopy criteria which are different for basal cell carcinoma and basosquamous cell carcinoma. Simultaneously, a more invasive potential in the aggressive BCC was confirmed to be proven by strongly decreased expression of laminin and collagen type IV in the basement membrane, which were plan to verify for all forms of BCC, as well as correlate these parameters with the expression of tissue remodeling enzymes – metalloproteinases.

Conclusions. The study suggests that in case of BCC the vascular dermatoscopical findings are of the greatest value. Vascular arborizations, short thin telangiectasia and white structures are predictive criteria characteristic of the infiltrative type; appearance of the telangiectasia in the perifocal neoplastic tissue can be regarded as a prognostic test indicating the propensity for aggressive and recurrent course of BCC. The study of vascular structures, based on the use of instrumental methods in combination with the study of tissue changes is a rationale deepening of our understanding on the pathogenesis of BCC.