without metastasis, by analysis of the morphological indicators, depth of the invasion and the density of neoangiogenesis.

Material and Methods. The material is consisted of operational materials from 60 patients with SCC of the lower lip from the University Clinics for Plastic and Reconstructive Surgery and Maxillofacial Surgery in Skopje. 45 patients were without metastasis and 15 patients were with metastasis in the neck lymph nodes. The specimens were histopathologically prepared on the Institute of Pathology, Medical Faculty of Skopje. The histological sections were stained with h. e. and immunohistochemically stained with antibodies against CD34. The depth of the invasion was measured with software for histomorphologic morphometry, and the values were expressed in micrometers. The density of the neoangiogenesis was determined by counting the blood vessels in each case separately, in the area with the largest vascular density (hot spots).

Results and Discussion. The statistical data preparation according to Mann-Whitney U-test showed that the patients with metastasis in the neck lymph nodes have statistically larger depth of tumor invasion for p=0.000083 and larger density of neovascularization which is statistically significant for p=0.00019, compared to the patients without metastasis.

Conclusions. The depth of the invasion and the density of the neovascularization in the invasive front of the neoplasm could be considered as good indicators for the tumor progression in the decision making process for further treatment of the patients with SCC of lower lip.

DESCRIPTION OF THE STIMULATED PLEURAL ADHESION FORMATION

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Key words: *stimulation of adhesion formation, pleural empyema, adhesion, pleural cavity*

Aim. To describe the stimulated pleural adhesion formation

Material and Methods. 270 nonlinear rats (males) were modeled by the pleural empyema, followed by the Platelet-Rich Plasma Therapy (PRP Therapy). For this purpose, 1 ml of plasma enriched with platelets was injected into the pleural cavity. The rats were sacrificed on the 30th day after the injection.

Results and Discussion. All rats of the pleural empyema model showed the residual pleural cavities of different size filled with the purulent content. Microscopically, the residual cavities showed the diffuse leukocyte infiltration, focal destruction of mesothelium, and an accumulation of tissue detritus before PRP Therapy. With PRP Therapy, a total obliteration of empyema cavities was detected in 41 (30.4%) of the experimental animals. By the 30th day after plasma injection, the residual cavities were almost completely filled with the collagen fibers with a low number of lymphocytes and capillaries in the formed adhesions.

Conclusions. Stimulation of the pleural adhesion formation by the pleural injection of plasma enriched with platelets is an effective therapy based on the local development of multiple adhesions which fill the residual cavity. An additional advantage is a safety of the biological substrate used in this method of treatment.

MORPHOLOGICAL JUSTIFICATION OF PLEURAL ADHESION STIMULATION

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Key words: *pleural adhesion, adhesion formation, pleural cavity, morphology of adhesions*

Aim. To give the morphological justification of pleural adhesion stimulation.

Material and Methods. The chronic pleural empyema was modeled in 290 nonlinear male rats by pleural injection of 1 billion E. coli suspension into the V intercostal space along the axillary line in a volume of 1 ml per week for 8 weeks. The animals of the experimental group were removed 50 mg of adipose tissue from the subcutaneous abdominal fat, followed by homogenization in physiological saline. The resulting suspension was injected into the empyema cavity. The animals of the control group were injected with 500 μl of physiological saline. The animals of both groups were sacrificed on the 30th day of the postoperative period.

Results and Discussion. The microscopic examination of pleural adhesions showed the loose connective tissue with areas of leukocyte infiltration with few lymphocytes and macrophages. In the animals of the experimental group, the pleural adhesions were mature and characterized by the predominance of collagen fibers (per cent vol. 27.73±1.39%), while the number of reticular and elastic fibers was limited

(per cent vol. 4.01 and 2.73%, respectively). The volume fraction of the vascular bed was 6.27±0.19%. A desolation of capillaries with recalibration of blood vessels was found in the peripheral region. The lymphohysteocyte-predominant infiltration was detected (per cent vol. 23.12±1.29%).

Conclusions. Stimulation of the adhesion formation by the pleural injection of the autologous adipose tissue caused the formation of the adhesions filling the empyema cavity. Non identified inflammation indicated to the controlled development of adhesions.

CLINICAL AND ANATOMICAL CHARACTERISTIC OF THE PLEURAL CAVITY IN PLEURAL EMPYEMA

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Key words: *pleural empyema, adhesion, adhesion formation, residual cavities*

Aim. To identify the clinical and anatomic features of the pleural cavity in pleural empyema.

Material and Methods. A post mortem examination of 27 patients with diagnosed pleural empyema was performed. In compliance with the clinical and morphological classification, 170 pleural adhesions of different types were identified. Morphological evaluation by hematoxylin and eosin was performed, in addition to van Gieson's staining.

Results and Discussion. Of 27 pleural empyema patients, 11 (40.7%) showed the residual pleural cavities of various sizes and of these, purulent detritus with no inflammation and obliteration was present in 7 (25.9%) cases. The multiple pleural adhesions were found in 16 cases (9.4%). Of 170 adhesions, 83 (48.8%), 51 (30.0%), 25 (14.7%), and (6.5%) were planar, membranous, cordlike, and combined, respectively. Microscopically, the isolated adhesions showed the mature fibrous tissue which mainly included collagen and elastic fibers. The formed adhesions were richly vascularized and characterized by lymphoplasmacytic infiltration with single macrophages and leukocytes. The microscopic findings evidence the chronic inflammation in the formed adhesions.

Conclusions. 1. Chronic pleural empyema is often becomes complicated by the formation of adhesions, however, in 40.7% cases the adhesion formation was not active and as a result the residual pleural cavities were formed. 2. It is reasonable to stimulate adhesion formation to obliterate the residual cavities with the connective tissue.

MORPHOLOGICAL CHARACTERISTICS OF LOCAL COMPLICATIONS IN TATTOOING

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Key words: *tattoo, nevus, keloid, neoplasms, allergic reactions*

Aim. To describe morphology of local reactions to tattooing.

Material and Methods. In the Moscow Scientific and Practical Center of Dermatovenerology and Cosmetology of the Department of Public Health in the period from 2014 to 2018, 57 patients were observed with the complaints about poor quality of tattoo and discomfort. A needle biopsy of the skin of the tattoo area was performed. The obtained 180 samples were subjected to histological examination with the use of hematoxylin and eosin, in addition to van Gieson's staining.

Results and Discussion. In the tattoo area of all the samples, the pigment distribution was irregular and was detected as a deposition of granules of various sizes in the papillary layer of dermis. Of 180 samples, 79 samples (43.9%), showed the fraying dermal fibers and fiber destructurization and immaturity. This corresponded to the morphological characteristics of the keloid. Of 180 samples, 30 samples (16.7%), demonstrated the atrophic changes of epidermis, smoothing of epidermal ridges, hyperkeratosis and acanthosis. In addition, the areas of papillomatosis were identified. Their pathohistology corresponded to the pemphigoid type of lichen ruber planus. Of 180 samples, 21 (11.7%) showed the pathohistological features of nevus, 32 (17.8%) showed the various types of benign neoplasm (dermatofibroma, papilloma, keratoacanthoma), 3 (1.6%) showed squamous cancer, and 2 (1.1%) showed malignant melanoma. The local allergic reactions were observed single and in combination with the other complications in 63 (35%) samples.

Conclusions. The described pathohistological changes can be reliably attributed to the local complications of tatooing.