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CD68+ AND CD163+ MACROPHAGES IN PERIODONTITIS AND NORMAL SULCULAR GINGIVA RESEMBLE MUCOSA ASSOCIATED LYMPHOID TISSUE

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An inflammatory infiltrate subjacent to the junctional gingival epithelium always presents in clinically healthy gingiva. From the other hand, loss of periodontal tissue support due to inflammation is the primary feature of periodontitis and it seems that both macrophages M1 and M2 contribute to the pathogenesis. The aim of the study was to investigate changes of the CD68+ and the CD163+ macrophages in periodontitis compared with clinically healthy gums by immunohistochemical approach and histopathology.

Material and Methods. 29 individuals were involved in the research, including 14 healthy volunteers and 15 chronic periodontitis patients, divided into the periodontal health group (H group) and periodontitis group (P group). The diagnosis of periodontitis was based on the Classification of Periodontal and Peri-implant Diseases and Conditions 2017. This study was approved by the human subjects ethics board of Ethics Commission of Ukrainian Medical Stomatological Academy (No. 177b, from 27.11.2019) and was conducted in accordance with the Helsinki Declaration of 1975, as revised in 2013. All individuals were provided with written informed consents when enrolling in the study.

For immunohistochemical study of macrophages gingival biopsy was conducted before treatment of periodontitis patients, and in the H group, gingival tissues were collected during tooth extractions for orthodontic reasons at periodontally healthy sites.

M1 macrophages were identified among CD68+ cells and M2 – as CD163+, and their densities were calculated as numbers on maximal infiltrated areas $10\,000\ \mu\text{m}^2$.

Results. In H group density of CD68+ cells and CD163+ were 5.8 ± 4.8 and 6.7 ± 5.8 , correspondingly. In P group densities were presented with 5.6 ± 4.1 and 3.4 ± 2.6 , correspondingly. In P group cells infiltration was observed along sulcular epithelium similar to clinically health gingiva. CD68+ and CD163+ cells commonly localized in cells infiltrates, also CD163+ cells formed a similarity of border around infiltrates and density of CD68+ cells predominates over CD163+ in infiltrative areas significantly (Wilcoxon matched-pairs signed rank test, $p=0.0001$). Between groups comparisons revealed CD163+ cells superiority in P group, compared with H group (Mann Whitney test, $p<0.0001$). Morphological features in H group and P group have similarity as the sequence of lymphocytes and plasma cells regular representation below the sulcular epithelium, in contrast to ordinary areas of infiltration.

Conclusions. The density of CD163+ cells decreases significant in periodontitis and confirmed the paradigm of M2 predomination at physiological conditions. Features of organization of inflammatory foci suggests that macrophages can play essential role in inducing of associated lymphoid tissues which associated with sulcular epithelium and possible has a pathogenic role analogical to inducible bronchus-associated lymphoid tissue or inducible skin-associated lymphoid tissue.

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PECULIARITIES OF PSYCHOLOGICAL CHANGES IN PATIENTS WITH TMJ DISORDER IN THE COVID-19 REHABILITATION PERIOD

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Introduction. The temporo-mandibular joint dysfunction (TMJ) represents the most common facial-mandibular pathology both in Ukraine and abroad, which makes up from 20 to 75% of general stomatological pathologies. During the COVID 19 pandemics, psychological strain has increased, together with the society anxiety, which is reflected in general health of people, particularly in the TMJ pathologies. The range of new symptoms and exacerbations of the TMJ manifestations has expanded after COVID-19 recoveries.

Purpose of the study. To study and hold the comparative analysis of the psychological manifestations character and degree, when observed with the TMJ patients in their rehabilitation period after COVID 19, by analysis of psychological screening tests.

Materials and methods. There have been examined a total of 274 people (193 females and 81 males), aged 18-65 years, diagnosed with the TMJ dysfunction. The samples, excluded from the representative contingent, are those patients who were being treated for the TMJ dysfunction for 6-12 months and who from August 2020 till November 2020 were being ill with COVID 19. The study includes the patients with mild and moderate severity. There have been examined 24 patients with the TMJ dysfunction, with clinical dysfunction index ranging within $h = 6-15$ and pain index within $= 2-5$. In order to assess the psychological status of the patients the authors use the personal author questionnaire, Giessen subjective complaints list, Toronto Alexithymia Scale, modified 10- point subjective pain scale FPS- R (based on Bayers). To compare the patient groups, the authors used a non-parameter Student test, with the critical significance level $p=0.01$.