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PREDICTIVE IMPORTANCE OF MORPHOMETRIC ANALYSIS OF TRIPLE-NEGATIVE BREAST CANCER

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Triple-negative breast cancers denote malignant epithelial tumors showing complete hormonal independence with negative HER2 expression. Histologically, in most cases these are high-grade tumors, showing fields of central necrosis, lymphocytic infiltration, and fibrosis. The aim of the study was to examine morphometric parameters related to nuclear size depending on the type of carcinoma, as well as tumor proliferation. The entire research was conducted at the Center for Pathology and Pathological Anatomy, Clinical Center Niš. Sixty-four biopsy samples of triple-negative breast cancers were analysed, including 40 ductal, 6 lobular, 6 medullary, 4 ductulolobular, 4 metaplastic, 2 adenoid cystic and 2 apocrine carcinomas. The morphometric analysis was performed in the software package "ImageJ" version 1.52a. The statistical analysis of data was done in the software package SPSS 15.0. By comparing the values of the studied morphometric parameters, statistically significantly higher parameter values for Area, Perim and Feret were found in the group of medullary carcinomas, as well as the parameters for Integrated Optical Density. The value of integrated optical density was also very high in the ductal carcinoma group, but with no statistically significant differences due to high standard deviation. Metaplastic carcinoma showed the highest proliferative activity. Numerous similar studies have been trying to identify a specific marker of these carcinomas, which is still a challenge due to its aggressiveness. These are high-grade tumors with a broad spectrum of polymorphisms, usually with an overlapping morphological presentation, therefore, additional analyses are required in order to set adequate diagnosis.

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