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28574 – TUMOR-ASSOCIATED MACROPHAGES AND THEIR RELATIONSHIP WITH HISTOPATHOLOGICAL PROGNOSTIC FACTORS IN BREAST CANCER

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Introduction: The immune system plays a leading role in the tumor microenvironment due to the unique characteristics of its cells, such as macrophages, lymphocytes, among others. Tumor-associated macrophages (TAM) constitute up to 50% of the tumor mass in breast cancer and are vital to the innate immune response. Recently, numerous studies have been published evaluating the relationship between tumor-infiltrating lymphocytes (TILs) and TAMs in triple-negative breast tumors. High levels of TILs (CD8+ T cells) may be associated with a better prognosis, while high levels of TAMs are linked to poorer survival. **Methodology:** Cross-sectional study conducted on patients with histopathological diagnosis of invasive breast cancer and initial clinical staging who underwent upfront surgery (quadrantectomy or mastectomy) and sentinel lymph node biopsy at AC Camargo Cancer Center. The database, which included 760 patients divided into five groups by TMA, was reviewed through medical record analysis. Following inclusion and exclusion criteria, 101 patients were selected, representing luminal tumors, triple-negative, and HER2-positive overexpressed cases. When analyzing the number of cells stained with the macrophage marker, it was found that the cutoff point for total macrophages (CD68) was 110 cells/mm^2. Means and standard deviations of the quantitative variables were expressed and compared using the Mann-Whitney test (non-parametric data, with normality assessed by the Kolmogorov-Smirnov test). Categorical data were analyzed using Fisher's Exact Test and Pearson's chi-square test, expressed as absolute frequency and percentage. This study was submitted to the Ethics Committee via Plataforma Brasil under protocol number: 1896/14. **Conclusion:** Therefore, it can be concluded that high expression of CD68, characterized by a moderate to intense peritumoral infiltrate, is associated with histological grade III, high mitotic index, and triple-negative tumors. Conversely, a low number of CD68-positive cells is linked to luminal tumors, HER2-negative status, histological grades I and II, and a low mitotic index. Although additional markers are needed for macrophages, CD68 expression is a reliable prognostic biomarker in breast cancer, correlating with classic histopathological factors.