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BIOMARKER EXPRESSION IN BREAST CANCER. CORRELATIONS WITH OUTCOME FOLLOWING NEOADJUVANT CHEMOTHERAPY

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Purpose: Breast cancer is the most common type of cancer in women in Brazil and worldwide, corresponding to around 20% of all malignant tumors in women. Neoadjuvant chemotherapy improves survival rates in around 30% of patients with locally advanced disease. This study evaluated biomarker expression in tumor samples and assessed outcome variables following neoadjuvant chemotherapy. **Methods:** This longitudinal, analytical study included 86 patients of 28 to 80 years of age who were evaluated according to clinical data, histology and laboratory analysis of selected markers. **Results:** Positivity for estrogen (ER) and progesterone receptors (PR) was 58.54% and 65.79%, respectively. The tumors were predominantly negative for the HER2, CK5/6, EGFR, p53 and Topo II biomarkers and predominantly positive for the Ki-67, PTEN and IGF-1 biomarkers. The results obtained for ER showed associations with PR ($p=0.002$), Ki-67 ($p=0.049$), CK5/6 ($p=0.027$) and p53 ($p=0.032$). Likewise, there were associations between HER2 and Ki-67 ($p=0.028$) and between Ki-67 and Topo II ($p=0.001$). Eighteen patients (20.93%) achieved complete clinical response, while 9 (10.47%) achieved pathologic complete response (pCR). There was an association between pCR and the HER2 ($p=0.05$) and Topo II ($p=0.007$) biomarkers. More patients with HER2 tumors (40%) achieved pCR compared to those with the other subtypes, while none of the patients with luminal A tumors achieved pCR ($p=0.043$). **Conclusions:** In this study, HER2 and Topo II expression, as well as tumors classified as HER2 subtype or luminal A subtype were predictive of pCR.