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# CK19 expression and prognosis in women with breast cancer

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**Objective:** The objective of this study was to evaluate the association between CK19 expression and clinicopathological characteristics in cases of women with breast cancer. **Methodology:** This is a cross-sectional study involving women with breast cancer whose biopsies were analyzed by immunohistochemistry. The selection of participants was done in the years 2010 and 2015, based on a search in the records of anatomopathological examinations. The representative images were captured by the Image Prolife program. Selection criteria for representative areas were based on image sharpness and on the areas of greater intensity of cellular immunoreaction (hot-spot areas). The association analyses between CK19 expression and clinicopathological characteristics were performed using the chi-square test. The research was approved by the Research Ethics Committees of the Federal University of Goiás, and HAJ, with opinion number: 3983832 and 4019893. **Results:** A total of 121 cases of women diagnosed with breast cancer were included. In summary, women under the age of 50 years represented 52.9% of the total cases, 57.9% were classified as luminal, histological grade 1 and 2 tumors represented 53.8% of cases, and 51.2% were classified as stage I and II e74. Notably, 4% of cases had tumors <5 cm. The mean expression of CK19 was 70.6%, and the median was 79.3%. Median values of marked cells were used to define cut-off points for low and high expression. Regarding CK19 expression and clinicopathological characteristics, a significant association was observed between the median CK19 expression and the luminal phenotype ( $p=0.001$ , OR: 2.86, 95%CI 1.24–6.60), age  $\geq 50$  years ( $p=0.002$ , OR: 2.34, 95%CI 1.09–4.99), tumor size <5 cm ( $p=0.03$ , OR: 2.47, 95%CI 1.01–6.04), and a borderline association with absence of distant metastasis ( $p=0.072$ , 2.08 [0.930–4.64]). The other variables such as histological grade, lymph node metastasis, staging, recurrence, and death from cancer did not show associations with the expression of CK19. **Conclusion:** CK19 expression is associated with some clinicopathological characteristics of better prognosis in women with breast cancer.

**Keywords:** breast cancer; prognosis; CK19; immunohistochemistry.