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# IMPACT OF NUMBER OF POSITIVE LYMPH NODES AND LYMPH NODE RATIO ON SURVIVAL OF WOMEN WITH NODE-POSITIVE BREAST CANCER

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**Purpose:** This study aimed to evaluate the association of axillary lymph node ratio (LNR) and number of positive lymph nodes (pN) with the risk of breast cancer recurrence and death. **Methods:** A retrospective cohort study of node-positive stage II e III breast cancer patients diagnosed and treated between 2008 and 2009 at the Brazilian National Cancer Institute (INCA), Brazil. Overall and disease-free survival curves for number of positive lymph nodes (pN) and lymph node ratio (LNR) risk groups were constructed using the Kaplan-Meier method and compared by the log-rank test. Multivariate analysis was performed using stepwise forward Cox regression models. **Results:** In total, 628 women with node-positive breast cancer were included. Most patients (69.5%) had advanced clinical stage tumors ( $\geq$  IIB). The median follow-up was 58 months (range: 3-92 months). The adjusted recurrence hazard of pN2 and pN3 patients was 2.47 (95% Confidence Interval [CI] 1.72–3.56) and 2.42 (1.62–3.60), respectively, compared to pN1 patients ( $p < 0.001$ ), while the hazard of intermediate (0.21-0.65) and high-risk ( $>0.65$ ) LNR was 2.11 (1.49–3.00) and 3.19 (2.12–4.80), respectively, compared to low-risk LNR ( $\leq 0.20$ ) patients ( $p < 0.001$ ). On the other hand, the hazard of death of pN2 and pN3 patients was 2.17 (1.42–3.30) and 2.41 (1.53–3.78), respectively ( $p < 0.001$ ), and the hazard of intermediate (0.21-0.65) and high-risk ( $>0.65$ ) LNR patients was 1.70 (1.13–2.56) and 2.74 (1.75–4.28), respectively ( $p < 0.001$ ). **Conclusion:** Higher pN and LNR were associated with shorter disease-free survival and overall survival times.