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CIRCULATING NEUTROPHIL-DERIVED MICROVESICLES AS A POTENTIAL DIAGNOSTIC MARKER IN BREAST CANCER PATIENTS

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Objective: Due to the already observed importance of neutrophil-derived microvesicles (NMVs) in cancer development and progression, this study aims to quantify NMVs according to clinical staging and histological grade in the blood of breast cancer (BC) patients for a possible use in the liquid biopsy technique and personalized medicine, assisting in treatment decision. **Methods:** Peripheral blood was collected from 19 healthy women (control group) and from 51 patients with locally advanced BC (case group) in the Instituto Mário Penna, Belo Horizonte, Brazil. The study protocol was approved by the Ethics Committee of Instituto Mário Penna (CAEE 82703418.8.0000.5121). Clinical staging and histological grade data were obtained from the medical records of the study patients. The characterization of circulating NMVs was performed by immunophenotyping with specific neutrophil markers (CD66 and CD16), and quantification was performed by flow cytometry. **Results:** Our data showed a higher number of NMVs in BC patients, regardless of clinical staging and degree of tumor differentiation, when compared to the control group. Although no difference was observed in relation to the histopathological grade, the NMVs appear to have a potential diagnostic in BC patients. **Conclusion:** In a clinical scenario, they are going to use liquid biopsy as a candidate strategy to support clinical decision-making and guide therapeutic choices.

Keywords: Microvesicles. Breast cancer. Neutrophils.