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Accuracy of stereotactic vaccum-assisted breast biopsy for investigating suspicious calcifications in 2,021 patients at a public hospital in Brazil

Andressa Amorim¹, Andre Mattar¹, Marina Diógenes Teixeira¹, Marcellus do Nascimento Moreira Ramos¹, Marcelo Antonini², Luciana Lamarão Damous², Reginaldo Guedes Coelho Lopes², Luiz Henrique Gebrim¹

¹Pérola Byington Hospital – Women’s Reference Center – São Paulo (SP), Brazil.

²Instituto de Assistência Médica ao Servidor Público Estadual – São Paulo (SP), Brazil.

Objective: The objective of this study was to evaluate the accuracy of vacuum-assisted stereotactic biopsy (VASB) in the investigation of nonpalpable suspicious calcifications. **Methodology:** It was a retrospective study from July 2012 to December 2020, in which 2,021 women with suspicious calcifications detected on mammography (BI-RADS 4 and 5) had VASB performed at Hospital Estadual Pérola Byington, São Paulo, Brazil. Fragments were obtained and sent to an anatomopathological study; a metal clip was placed on the biopsy site. Four groups were analyzed, based on the biopsy results: benign, precursor lesions, ductal carcinoma *in situ* (DCIS), and invasive ductal carcinoma (ICD). **Results:** The median age of patients was 55 years (49–63 years). Pathology results on VASB were classified, respectively, as benign n=1,340 (66.3%), precursor lesions n=84 (4.1%), DCIS n=441 (21.8%), and ICD n=156 (7.7%). In the 60 patients whose VASB results were benign because of anatomopathological disagreement, surgery was performed. The following results were obtained: benign n=30 (50%), ICD and DCIS n=21 (35%), and precursor lesions n=9 (15%). The sensitivity of the method was 91.7%, specificity was 97.1%, false negative rate was 3%, positive predictive value was 92.4%, and negative predictive value was 96.9%. **Conclusion:** The VASB method has good accuracy in distinguishing lower and higher-risk lesion groups compared with the gold standard. It has high predictive value in both benign and malignant lesions, guiding therapeutic planning.

Keywords: breast cancer; diagnosis.