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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 Amorim, Marcellus N. M. Ramos[1], Andre Mattar[1], Maria Isabela B. A. C. Sawada[1], Luiz Henrique Gebrim[1]

[1]Hospital Perola Byington– São Paulo (SP), Brazil

Introduction: The gold standard for breast biopsy procedures is currently an open excision of the suspected lesion. The cost and morbidity associated with this procedure has prompted many physicians to evaluate less invasive, alternative procedures. More recently, image-guided percutaneous coreneedle biopsy has become a frequently used method for diagnosing palpable and non-palpable breast lesions. Although sensitivity rates for core-needle biopsy are high, it has the disadvantage of histological underestimation. Vacuum-assisted stereotactic biopsy (VASB) was developed to overcome some of these negative aspects of core-needle biopsy. VASB allows for a sufficient specimen to be obtained with a single insertion and can provide a more accurate diagnosis and completely remove the lesion. **Objectives:** To evaluate the accuracy of vacuum-assisted stereotactic biopsy (VASB) in the investigation of non palpable suspicious calcifications. **Methods:** 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. The device used was Suros Pearl (Hologic, Malbolrough, Massachusetts, USA), with probe gauge 9. Fragments were obtained and sent to 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 (IDC). Most patients with positive or discordant cases underwent surgical treatment and the previous biopsy results were compared to surgery results. **Results:** Patients´ median age was 55y (49–63y). 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 IDC n=156 (7.7%). Surgery was performed in the 60 patients with benign results on VASB, because of anatomopathological disagreement, with the following results: benign n=30 (50%), IDC e DCIS n=21 (35%) e precursor lesions n=9 (15%). ROC curve and AUC were calculated to compare the results of lower and higher risk lesions groups according to VASB and surgery results (AUC=0.79). The χ^2 test was performed between the groups ($p<0.05$). The sensitivity of the method was 91.7 %, specificity was 97.1%, false negative rate was 3%, positive predictive value was 92.4%, negative predictive value was 96.9%. **Conclusions:** The VASB method has a good accuracy to distinguish lower from higher risk lesions groups comparing to the gold standard. It has high predictive value in both benign and malignant lesions, guiding therapeutic planning.