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919 – Diagnostic performance of a digital breast tomosynthesis–based imaging pathway in a peruvian dense-breast population

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Breast density varies across populations and tends to be higher in Latin American women, potentially affecting the performance of breast imaging modalities. However, real-world evidence on digital breast tomosynthesis (DBT) — based diagnostic pathways in these settings remains limited. This study aimed to evaluate the diagnostic performance of a DBT-based imaging approach within a Peruvian population, focusing on recall resolution with ultrasound, biopsy yield, cancer detection rate (CDR), and predictors of malignancy in a predominantly dense-breast cohort. A retrospective analysis was conducted on 2,690 DBT examinations performed at a tertiary breast imaging center in Peru, excluding BI-RADS 6 cases. Examinations classified as BI-RADS 0 underwent targeted ultrasound, and biopsies were indicated for BI-RADS ≥ 4 identified through mammography or ultrasound. Key outcomes included recall rate, biopsy rate, positive predictive value of biopsy recommendation (PPV3), and CDR. Multivariable logistic regression was used to identify independent predictors of malignancy among biopsied patients. Dense breasts were observed in 65.7% of cases. The recall rate was 45.0%. Among BI-RADS 0 cases, 87.9% were resolved via ultrasound without requiring a biopsy, while 12.0% were upgraded to biopsy. A total of 98 biopsies were performed, with 66 malignancies detected, resulting in a PPV3 of 67.3%. The overall CDR was 24.5 cancers per 1,000 examinations. Higher BI-RADS categories ($\geq 4B$ vs. 4A) were independently associated with malignancy, while age showed a non-significant trend. Breast density, family history, and imaging indication were not independent predictors after adjustment. In conclusion, despite high recall rates, the DBT-based pathway demonstrated strong diagnostic performance. Targeted ultrasound effectively optimized patient triage, maintaining high biopsy yield and cancer detection. These findings support the use of tailored DBT-based strategies in Latin American populations with a high breast density.

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