

CAD System for Breast Ultrasound Improves Diagnostic Performance



According to a new study, computer-aided diagnosis (CAD) systems for breast lesion classification on ultrasound have shown significant improvements in radiologists' diagnostic performance.

This prospective study included patients from eight secondary or rural hospitals in China. The patients were scheduled to undergo biopsy or surgical resection of a breast lesion classified as BI-RADS category 3-5 on prior ultrasound from November 2021 to September 2022.

The results of the study support the use of computer-aided diagnosis at tertiary and/or urban centres, highlighting the potential to assist radiologists without breast ultrasound expertise.

A radiologist without any expertise performed and interpreted patients who underwent an additional investigational breast ultrasound.

Radiologists lacking breast subspecialty training and for whom breast ultrasound accounted for less than 10% of their ultrasounds performed annually —then assigned BI-RADS categories to the lesions.

Computer-aided diagnosis (CAD) results were used to upgrade BI-RADS category 3 lesions to category 4A, as well as to downgrade BI-RADS 4A lesions to category 3. The researchers used histologic results from biopsy or resection as their reference standard.

To conclude, CAD significantly improved radiologists' diagnostic performance; interpretations resulted in upgrade of 6% of BI-RADS category 3 assessments to category 4A, of which 16.7% were malignant. Of category 4A lesions, 79.1% were downgraded by CAD to category 3, of which 4.6% were malignant.

Overall, the findings indicated the ability of CAD to improve diagnosis in settings where radiologists do not have expertise in breast ultrasound.

Source: [American Journal of Roentgenology](#)

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