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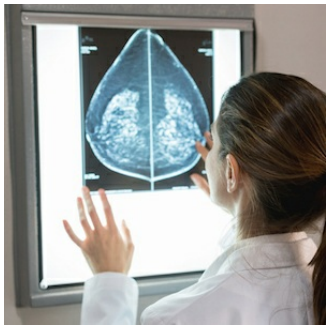
AI Breast Cancer Diagnosis Matches Two Doctors



A newly-published study in the journal Nature suggests that AI diagnoses breast cancer from mammograms more accurately than radiologists.

A computer, specially designed and trained by a team of researchers from international bodies such as Google Health and Imperial College London, performed as well as two doctors working together.

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The computer model worked on mammograms from nearly 29,000 women in the UK and US.

In the UK, the standard reading procedure is for two radiologists to analyse X-rays. If there is no consensus, a third will undertake an assessment.

In the study, the computer analysed the images with no access to each patient's history but still outperformed six radiologists.

The study results indicated that the AI algorithm matched the double-reading system in accuracy and was better at spotting cancer than a single radiologist.

There was a 5.7%/1.2% (UK and US data respectively) reduction in falsely diagnosed cancer and a 9.4%/2.7% drop in false negatives, when cancer is overlooked.

"Our team is really proud of these research findings, which suggest that we are on our way to developing a tool that can help clinicians spot breast cancer with greater accuracy," said Dominic King from Google Health.

Becoming a specialist in interpreting mammograms takes more than a decade but it is time-consuming work.

While AI shows great promise in cancer diagnosis, it is largely seen as a support tool for radiologists that would tackle burnout. With an estimated shortage of 1000 radiologists across the UK, AI could step in to perform the standard second read within seconds, reducing workload.

The research team said one application could include providing automatic real-time feedback on mammography images, awarding a statistical score that could be used to triage suspected cases more quickly.

However, they added that further testing in larger populations was necessary.

"This is still early stage research, but it shows how AI could improve breast cancer screening and ease pressure off the NHS," said Michelle Mitchell, Cancer Research UK's chief executive.

Source: Imperial College
Image credit: iStock

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