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Early detection of breast cancer by methylation-specific PCR

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If detected early breast cancer is curable, but because of the limitations of mammography early detection techniques are needed. Most cancers arise from the ductal epithelium and in the 28 April [Lancet](#), Ella Evron and colleagues from [Johns Hopkins University School of Medicine](#) suggest that analysis of breast-duct fluid collected through ductal lavage could be an important new method for detecting cancerous cells.

Evron *et al.* performed methylation-specific PCR on cells collected from breast-duct fluid. Methylated alleles of *Cyclin D2*, *RAR-β* and *Twist* genes were frequently detected in fluid from mammary ducts containing endoscopically visualized carcinomas (17 cases of 20) and ductal carcinoma *in situ* (2 of 7), but rarely in ductal lavage fluid from healthy ducts (5 of 45). Two of the women with healthy mammograms whose ductal lavage fluid contained methylated markers and cytologically abnormal cells were subsequently diagnosed with breast cancer (*Lancet* 2001, **357**:1335-1336).

Saraswati Sukumar, the leader of the research team, says, "A combination of cytology and methylation markers could be useful for detecting breast cancers that are missed by mammograms."

References

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