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BREAST CANCER

Profiling of ultra-low-risk disease

Early detection of breast cancer via mammographic screening has contributed to the improvements in patient outcomes. Earlier detection, however, brings the risk of overtreatment. Molecular profiling assays have proven utility in identifying women with 'low-risk' disease who can be spared adjuvant chemotherapy. Now, new data demonstrate that one such assay, the 70-gene Mammaprint test, enables detection of indolent tumours that can be treated with surgery alone.

Mammaprint was developed in women who received no systemic therapy, and has previously been shown to enable the classification of 'ultra-low-risk' disease that is associated with no recurrences after 15–20 years. Laura Esserman and colleagues sought to validate the Mammaprint ultra-low-risk threshold in an independent clinical trial cohort of 653 women with ≤3 cm breast tumours and no nodal involvement. These patients were diagnosed in the era before mammographic screening, and only ~50% received systemic therapy (with tamoxifen). 98 of the women (15%) were found to have ultra-low-risk tumours, all of which were hormone-receptor positive, HER2 negative. Importantly, however, tamoxifen treatment had a negligible effect on the excellent 20-year disease-specific survival of these patients (97% versus 94% with surgery alone).

Esserman emphasizes that the low-risk threshold is insufficient to identify these patients: "almost all of the ultra-low-risk tumours had low-risk features, but only 25% of the low-risk tumours were ultra-low risk." She adds, "we want clinicians to know that ultra-low-risk breast cancers really do exist. This concept has been talked about for at least a decade, but now we can tell which women have such tumours, and it is a substantial number." Indeed, a diagnosis of ultra-low-risk disease is likely to be common in the era of mammographic screening.

Esserman's conclusion is compelling: "it is wonderful to know that I have a test that lets me tell a woman that, even though she has a diagnosis of breast cancer, the disease will not kill her. I can then say, let's make sure we don't make the treatment worse than the disease! That is a joyful conversation."

David Killock

ORIGINAL ARTICLE Esserman, L. J. *et al.* Use of molecular tools to identify patients with indolent breast cancers with ultralow risk over 2 decades. *JAMA Oncol.* http://dx.doi.org/10.1001/jamaoncol.2017.1261 (2017)