

Simple calculation can save breast cancer patients five years of pain

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An algorithm that predicts whether breast cancer is likely to return is sparing NHS patients years of grueling, unnecessary treatments.

The system is being used by about 25 postmenopausal breast cancer patients a month at The Royal Marsden hospital in southwest London. About 40 per cent of them could be able to avoid five years of hormone therapy, because there is only a very low risk of their cancer spreading to secondary sites such as the lungs and liver, where it often proves fatal.

At present many breast cancer patients are prescribed ten years of hormone therapy after standard treatments — usually a combination of surgery and chemotherapy or radiotherapy — to lower the chance of relapse.

The hormone treatment starves the

cancer of oestrogen, upon which it feeds. However, it can have unpleasant and dangerous side-effects, including bone weakness, blood clots and the aggravation of menopausal symptoms such as hot flushes and fatigue.

The CTS5 algorithm makes its prediction about the likelihood of breast cancer returning and spreading based on four pieces of information that are gathered during surgery. These are the size of the tumour, the age of the patient, the number of lymph nodes that have been affected and an evaluation of the tumour's cells that gives an idea of how quickly it grew.

A doctor enters these figures into an online calculator to produce a prediction of recurrence. Patients judged to be at low risk can opt out of the hormone treatments after five years instead of ten.

The latest test showed that CTS5 was

able accurately to sort 2,428 patients who received a diagnosis at The Royal Marsden between 2000 and 2007 into low, medium and high-risk groups. The study confirmed that CTS5 was effective at predicting relapse of breast cancer after five years.

Juliet Richman, clinical research fellow at The Royal Marsden NHS Foundation Trust, said: "Our analysis demonstrates that this tool works well in a varied population of breast cancer patients. This is crucial; in order for it to be useful in a clinical setting we need to know that CTS5 will be accurate for a variety of women.

"We can establish those who are at a very low risk of their breast cancer recurring, and say they would be extremely unlikely to benefit from extending hormone therapy past five years. In doing so they can avoid the possible side-effects — both physically

and psychologically — of continuing treatment."

Ivana Sestak, a senior statistician at Queen Mary University of London, said: "It is incredibly important to determine which women are at high risk of late recurrence, so that they can continue hormonal treatment.

The online calculator was freely available for oncologists around the world to use, she added. "It is very easy to use and requires only information that is readily available to clinicians. We are now investigating further whether the tool could be used by research nurses, helping to free up clinicians' time."

There are about 54,900 new cases of breast cancer in Britain every year. The estimated lifetime risk of being diagnosed with breast cancer is one in seven for females born in the UK after 1960, according to Cancer Research UK.

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