

11 March 2016

Gene test can tell people with breast cancer if they need chemo



Is chemo worth it? The test could help individuals and their doctors decide
Sam Ogden/SPL

It has been a long-sought goal: a test that can reveal whether [someone with cancer needs chemotherapy](#).

Now we may have such a test for breast [cancer](#). A five-year study looking at the effectiveness of the test, which involves analysing the tumour's genes, suggests that some women who would normally have chemo after surgery can safely skip the six-month course.

"It's a further step forward in tailoring treatment to individual patients," says [Mitch Dowsett](#) of the Institute of Cancer Research in London, who was not involved in the study.

Chemotherapy, our mainstay of cancer treatment, is gruelling: it can cause nausea, fatigue, hair loss and sometimes life-threatening infections or heart problems; it can even spawn a new cancer. But it may not always be needed: in some people tumours can be highly aggressive, while in others, they lie dormant for many years.

At present doctors base their treatment decisions on factors like the size of the tumour and whether or not it has spread to the lymph nodes.

Personalising treatment

Most progress towards personalising treatment has been in developing genetic tests for breast cancer, performed on tumour samples taken

during surgery.

One such test, [Oncotype DX](#), analyses the activity of 21 genes and gives people a score from 0 to 100, with a higher score indicating a worse prognosis. It is already offered to some women whose cancer has not yet spread to the lymph nodes to help guide decisions on chemo.

Now it has been tested in a group of over 2600 women whose cancer had spread. These women would normally always be given chemo, as well as a hormone therapy such as tamoxifen.

In the study one in 6 of the women had an Oncotype DX score of less than 12, and so were only given hormone therapy, which has less severe side effects than chemo. After five years, 6 per cent of them had died or had seen their cancer return.

That figure shows that skipping chemo was the right call, says team member Oleg Gluz of the Evangelical Hospital Bethesda in Mönchengladbach, Germany. That's because previous studies have shown that chemotherapy generally reduces recurrence by a third – which in this case, would only take the rate down from 6 to 4 per cent – and such a small reduction would probably be outweighed by the known harms of chemotherapy.

“Chemotherapy can cause a lot of damage,” says Gluz, who announced the results at the European Breast Cancer Conference in Amsterdam, the Netherlands, today.

Dowsett says that until the trial has continued to the point where it can reveal 10-year survival rates, we won't know how safe it is for women whose cancer has spread to forgo chemo. Even so, some women would still find it useful to know their Oncotype DX score. “Some patients will want to avoid chemotherapy more than others.”