Help support research into predicting response to treatment in triple negative breast cancer

Dr Morris will find out whether measuring the levels of a specific protein in triple negative breast cancer can predict how patients will respond to chemotherapy

The challenge

There are currently no targeted treatments available for triple negative breast cancer and we are unable to predict which patients will respond well to chemotherapy. In order to develop new treatments and improve outcomes for patients, we need to understand the factors that influence how cancer cells respond to drugs.

Aim:	To identify new ways to predict response to treatment in triple negative breast cancer patients
Researcher:	Dr Jo Morris, University of Birmingham
Funding:	Breast Cancer Now funded grant (2014MaySP305)
Tissue:	300 triple negative breast cancer samples from 150 patients, paraffin embedded

The science behind the project

Not all patients with triple negative breast cancer will respond to chemotherapy in the same way. Dr Jo Morris and her team at the University of Birmingham are looking for new ways to predict the effectiveness of chemotherapy in triple negative patients.

Recent work by Dr Morris has discovered that a specific protein, which plays a key role in the process that repairs DNA, may influence how cancer cells are affected by DNA-damaging chemotherapy. This research has suggested that cancer cells with lower levels of this protein may be more susceptible to chemotherapy.

Dr Morris will use triple negative breast cancer samples from the Breast Cancer Now Tissue Bank, taken from 150 patients, to find out whether the protein can act as a 'biomarker' to identify which patients are likely to respond well to treatment. The team will study the samples to find out whether levels of this protein vary between triple negative patients. Dr Morris will then look for a link between protein levels and the patients' survival outcomes.

They will also investigate whether this protein varies in healthy tissue; wide variation of the amount found in healthy tissue would mean the protein is unsuitable for use as a marker.

What difference will this project make?

This work may enable triple negative breast cancer patients to be tested for the levels of this protein to predict how they will respond to chemotherapy, and which drugs they are most likely to benefit from.