Drug hope for aggressive breast cancer

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Australian researchers have identified a molecule responsible for the spread of basal breast cancer. Photo / Thinkstock

A new Australian discovery could lead to the first ever drug treatment for people battling the most aggressive form of breast cancer.

In a world first, researchers at The Garvan Institute identified the "hedgehog" molecule, which, despite its innocent name, is to blame for the spread of basal breast cancer.

"(Basal breast cancer) does tend to affect younger women and the outcome for those patients, not always, but sadly too often, is quite bad," said researcher and clinical Associate Professor Sandra O'Toole.

"There's a real need to try and identify specific changes in those types of cancers that we can then target with drugs."

The molecule, named because of its spiky structure, tells cells where to go during human development.

It usually lies dormant during adulthood, but becomes active in some cancers, including a common skin cancer, child brain cancer and some lung cancers.

Scientists on Thursday said tests on 279 women with basal-like breast cancer revealed those packed with hedgehog molecules "did very badly".

Further trials on mice indicated that, if injected with high levels of the hedgehog molecules, the cancer was more aggressive and spread further.

But when the hedgehog was blocked, tumours were smaller and didn't spread as far, Prof

O'Toole told AAP.

"We've shown that when we silence those hedgehog molecules it affects the growth of the breast cancer and the spread of the breast cancer," she said.

Scientists have clinically tested drugs that appear to hinder the hedgehog molecule from corrupting "normal cells" in other forms of cancer.

"We're hopeful that by using drugs that are already available we might be able to look in some breast cancer patients and see whether it's effective," Prof O'Toole said.

"This is really exciting because there's the pathway that seems to be particularly switched on in these basal cancers, and there is already a drug available that can target it."

There are about 12,500 cases of breast cancer identified in Australia each year, and about 10 per cent of these are basal.

- AAP