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Male sex hormones 'drive breast cancer'

By Michelle Roberts Health editor, BBC News online

Scientists have designed drugs that block the action of male hormones

US scientists say they have found a new target to beat breast cancer - male sex hormones, or androgens.

The University of Colorado team discovered that many breast cancers possess androgen receptors on their surface, and that male hormones like testosterone fuel the tumour's growth.

Drugs to block these receptors could offer another way to fight the disease, a meeting of the American Association for Cancer Research heard.

They plan clinical trials to test this.

Dr Jennifer Richer and colleagues say more than three-quarters of all breast cancers possess androgen receptors and therefore might benefit from anti-androgen therapy.

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Dr Emma Smith of Cancer Research UK

This type of treatment is already used for prostate cancer.

Hormones

Experts already know that some breast cancers grow under the influence of female hormones, like oestrogen and progesterone.

The widely-used breast cancer drug Tamoxifen works by blocking oestrogen receptors to halt these cancers.

Dr Richer's research suggests male hormones are also important drivers.

Hormones and breast cancer

- Some breast cancer cells have receptors, which allow particular types of hormones or proteins to attach to the cancer cell
- Tumours that possess oestrogen receptors are known as oestrogen-receptor positive or ER positive breast cancer and respond well to hormone treatments like Tamoxifen
- Some cancers have receptors for the protein HER2 (human epidermal growth factor 2) and respond well to a drug called Herceptin (trastuzumab)
- Scientists are increasingly interested in drugs that block androgens as a potential therapy for androgen-receptor positive breast cancer

And adding anti-androgen drugs to our armoury against breast cancer could improve treatment success.

They found many breast tumours possessed both oestrogen and androgen receptors.

These responded to anti-androgen therapy in the laboratory.

Patients who who relapse while on Tamoxifen but who also have androgen receptors might have the most to gain from this new type of treatment, according to Dr Richer.

She said: "We are excited to move towards clinical trials of anti-androgen therapies in breast cancer."

Dr Emma Smith of Cancer Research UK said: "It's still early days for this research but there's growing interest in the androgen receptor's role in breast cancer as a potential new route to tackle the disease.

"Cancer Research UK scientists are among those working on whether targeting this receptor could help treat both those women who develop resistance to other treatments and those who have fewer treatment options."