

Baby hormone stops breast cancer

From BBC News April 19, 2005

The hormone that heralds pregnancy could offer way to prevent breast cancer, experts believe.

It is already known that having a baby by the age of 20 cuts a woman's future risk of breast cancer in half.

US scientists at the Fox Chase Cancer Center, Philadelphia, have shown this protection is down to hCG, which is produced by the placenta in pregnancy. Their rat studies revealed how hCG changes breast cells' DNA, making them more resilient to cancerous changes.

This is because breast cells do not reach full maturity until a woman has had a full-term pregnancy, they told the annual meeting of the American Association for Cancer Research. Their study confirmed that the protection conferred was specific to the hormone hCG and was not found with other female hormones. In the future, it might be possible to offer women who do not wish to or are unable to have a baby, the same protection using this knowledge, the researchers hope.

In their experiment, Dr Irma Russo and colleagues compared virgin rats treated with a daily hCG injection, virgin rats treated with oestrogen and progesterone, untreated virgin rats and pregnant rats.

Human trials

Only the pregnant rats and the rats treated with hCG had the permanent genetic changes that are protective against breast cancer. Dr Russo said: "This hormone might be useful for breast cancer prevention in women."

Dr Leslie Bernstein, of the University of California School of Medicine in the US, has already looked at whether women who have been given injections of hCG have a lower risk of breast cancer as a result. In the US, there was a trend in the mid-90s for some women to go for hCG injections as part of a weight loss programme.

Dr Bernstein looked at 744 women with breast cancer and 744 women without breast cancer who were of a similar age, race and pregnancy history (ranging from none to many past pregnancies).

"We found there was a very modest reduction in breast cancer risk overall with the hCG shots, but when we looked at the women who had never had a full-term pregnancy, we saw a much stronger reduction of risk." However, if the woman was very obese, this protection was not seen, she said.

"It's definitely worth pursuing as a prevention tool. It doesn't appear to cause any harm. If there is a way to alter breast cells without a woman having to become pregnant - not all women will want to get pregnant or have a baby at a young age - it would be really nice," she said.

But Dr Sarah Rawlings of Breakthrough Breast Cancer cautioned: "Further research is needed before this is used for breast cancer prevention in women." Laura Trapani, of Breast Cancer Care, and Professor Stephen Duffy, of Cancer Research UK, echoed this concern.