Hopes for breast cancer vaccine

BBC

American scientists say they have developed a vaccine which has prevented breast cancer from developing in mice.

The researchers - whose findings are published in the journal, Nature Medicine - are now planning to conduct trials of the drug in humans.

But they warn that it could be some years before the vaccine is widely available.

The immunologist who led the research says the vaccine targets a protein found in most breast tumours.

Vincent Tuohy, from the Cleveland Clinic Lerner Research Institute, said: "We believe that this vaccine will someday be used to prevent breast cancer in adult women in the same way that vaccines have prevented many childhood diseases.

Unique challenge

"If it works in humans the way it works in mice, this will be monumental. We could eliminate breast cancer."

In the study, genetically cancer-prone mice were vaccinated - half with a vaccine containing á-lactalbumin and half with a vaccine that did not contain the antigen.

None of the mice vaccinated with á-lactalbumin developed breast cancer, while all of the other mice did.

The US has approved two cancer-prevention vaccines, one against cervical cancer and one against liver cancer.

However, these vaccines target viruses - the human papillomavirus (HPV) and the Hepatitis B virus (HBV) - not cancer formation itself.

> **“We look forward to seeing the results of large-scale clinical trials to find out if this vaccine would be safe”**

In terms of developing a preventive vaccine, cancer presents problems not posed by viruses - while viruses are recognised as foreign invaders by the immune system, cancer is not.

Cancer is an over-development of the body's own cells. Trying to vaccinate against this cell over-growth would effectively be vaccinating against the recipient's own body, destroying healthy tissue.

Caitlin Palframan, of charity Breakthrough Breast Cancer, said: "This research could have important implications for how we might prevent breast cancer in the future.

"However, this is an early stage study, and we look forward to seeing the results of large-scale clinical trials to find out if this vaccine would be safe and effective in humans."

She added there were already steps women could take to reduce the risk of breast cancer, including reducing alcohol consumption, maintaining a healthy weight and taking regular exercise.

Cancer Research UK's professor of oncology, Robert Hawkins, said: "This very early study describes an interesting approach to the prevention of breast cancer.

"It will be several years before this vaccine can be tested fully to assess its safety and effectiveness as a way to stop the disease developing in women."

Breast cancer is the most common cancer in the UK, affecting more than 45,500 women every year.

SOURCE [1]

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