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Plastics in Food Containers Cause Cancer

Scientists link plastic food containers with breast cancer

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A chemical widely used in food packaging may be a contributing factor to women developing breast cancer, scientists have suggested.

The study links the compound to the development of hormone sensitive tissue in mice and has prompted environmental campaigners to call for far tighter regulation of such chemicals.

Experiments at Tufts University School of Medicine in Boston, Massachusetts, have potentially worrying implications for human health since they suggest mammary glands of female mice grow in a way that makes them more likely to develop breast cancer and also to respond unusually to oestrogen, which fuels most breast cancer in humans.

The compound involved is called bisphenol-A or BPA. It is used in plastic food containers, cans and dental sealants and other research suggests it leaches from products and is absorbed in low concentrations by the human body,

The scientists behind the latest findings say in the journal *Endocrinology* that they are involved in further work to test the hypothesis that exposure in the womb and shortly after birth to BPA in particular, and to oestrogens in general, might increase people's susceptibility to breast cancer.

It is the second report in a week to raise concerns about widely used chemicals. Research has also shown that phthalates, often found in plastics, affects the genital development of baby boys.

The Tufts researchers report "persistent alterations" to mammary gland development after giving doses of BPA to pregnant mice which were designed to mimic levels humans are likely to be exposed to.

The rodents were treated late in pregnancy and about four days after birth. The offspring were checked as they reached puberty about 30 days later. The researchers found large increases in the number and density of terminal end buds, part of the mammary gland structure where breast tumours start in both animals and humans.

They also found a drop in the number of cells programmed for death, the natural defence mechanism by which the body gets rid of damaged cells that might become cancerous. Animals exposed to higher doses of BPA developed mammary glands more sensitive to oestrogen.



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Professor Frederick vom Saal, of the University of Missouri-Columbia, commenting on the findings, said: "This is of tremendous concern because this is clearly a study that is relevant to human exposure levels to this chemical."

Gwynne Lyons, a policy adviser to environment group WWF UK, suggested that humans and wildlife were being put at risk. "Because industry wants business as usual, the UK government and regulatory authorities in the European Union member states are not adequately controlling these gender-bending chemicals and are fighting shy of pressing industry to come up with safer chemicals."

A study to be published this week in the Journal of the National Cancer Institute will raise questions over the long-term daily use of the pain-killer ibuprofen by suggesting it may increase breast cancer risk.

Researchers at the University of Southern California studied the health histories of 114,000 women and compared them to the pills and medicine they said they had taken.

The painkiller is widely available over the counter and has long been seen as one of the safest drugs. Researchers say further study of its possible effects is needed because of the public health impact should the findings be confirmed.

But there is better news for women diagnosed with cancer who may choose to preserve their fertility by freezing eggs before they undergo chemotherapy or radiation treatments.

Existing freezing and thawing techniques can damage the eggs but scientists from the University of Michigan told a conference in Istanbul yesterday they had developed a promising process called vitrification, already tried in mice and scheduled for trials of women this autumn. This instantly freezes the eggs, preventing the formation of dangerous ice crystals.

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