



Why do oestrogenic drugs cause weight gain?

Dr Vita Birzniece from the School of Medicine has received funding from the National Health and Medical Research Council (NHMRC) to study the effects of oestrogenic medications on certain hormones and the metabolism of fats. The aim of this research is to find out more about how these chemicals interact and in what other processes are involved.

'Oestrogen and anti-oestrogen drugs are readily prescribed medications for contraception purposes, hormone replacement therapy, or to combat a range of chronic diseases such as osteoporosis and breast cancer,' explains Dr Birzniece. 'People treated with this class of drugs are at higher risk of becoming overweight. This is because the body's ability to process fats decreases and with nowhere to go, the fats are stored for later use. We have recently discovered that oestrogen compounds regulate the growth hormone (GH), a major regulator of metabolism. A block of oestrogen receptors in the brain results in a reduction of GH secretion which may cause obesity and lead to insulin resistance. The action of GH is also blocked by oestrogen acting through the liver. So, there is a complex interplay where oestrogen has the ability to increase the levels of GH or decrease GH activity in the liver.' The aim of this research is to investigate the effects oestrogen compounds on GH and to understand the biochemical changes caused by these chemicals.

The research is being conducted by simultaneously monitoring the body and liver fat metabolism of participants. Oestrogenic and anti-oestrogenic drugs are administered to different groups and the levels of GH, fatty acid metabolism and very low density lipoprotein production are monitored and recorded.



The results of this study could potentially change health policies and increase awareness amongst physicians to monitor the metabolic health of patients treated with oestrogen or anti-oestrogen drugs. Doing so could lead to earlier interventions to prevent the progression of obesity and its related diseases.

Project Title: Novel interplay of oestrogen and growth hormone in regulating lipid metabolism

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