

**Concentrations of Dioxins (PCDDs), Dibenzofurans (PCDFs) and Polychlorinated Biphenyls (PCBs) in Breast Cancer Patients and Controls.**

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**KEYWORDS**

PCDD, PCDF, PCB, breast cancer

**INTRODUCTION**

Breast cancer is the most common type of cancer in females. In 1992 a total of 5251 women were diagnosed with breast cancer in Sweden. During recent years exposure to organochlorine compounds, especially PCBs, has been discussed in the etiology. The results are conflicting although an association can not be ruled out.<sup>1-4</sup>

**OBJECTIVE**

The aim of this study was to compare concentrations of PCDDs, PCDFs and PCBs in patients with a new diagnosis of breast cancer with the concentrations in patients who were operated for fibroadenomatosis in the breast.

**MATERIAL AND METHODS**

Approximately 10 g breast tissue from an area free of tumour was taken from cases and controls. The breast tissue was kept frozen until the analysis. Fat was extracted, cleaned and analysed with high resolution gas chromatography coupled to a low resolution mass spectrometer as described previously.<sup>5</sup> All analysis were performed without knowledge if it was a case or a control. Parity and breast feeding as well as clinical data were assessed.

# TOX

## RESULTS AND DISCUSSION

The study included 62 patients with histopathologically verified breast cancer and 38 control persons with fibroadenomatosis. The results of some of the analysis are still to be evaluated. So far higher concentrations of PCDDs, PCDFs and PCBs were found in the cases than in the controls. However, an influence of age was seen, i.e., increasing concentration with increasing age. The results were thus standardized for age. Another explanation might be that the cancer disease would influence the concentration, e.g., by loss of body weight. However, most of the cases had an early stage of breast cancer and this hypothesis is less likely to be true. Results will be presented according to stage, hormone receptor status, DNA-index, S-phase, history of parity and breast feeding.

## ACKNOWLEDGMENT

This study was financially supported by the Lion's Research Foundation, Uppsala University, Cancerhjälpen, and the Örebro County Council Research Committee.

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