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Co-relation between pesticidal toxicity and carcinogenic risk in women

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Female reproductive cancers are the most prevalent type of cancer among women worldwide. Indiscriminate use of chemical pesticides over the years has lead to contaminate water, soil, etc. and get concentrated in food chain and finally accumulated in blood and tissue of human beings.

One year data of female reproductive cancers cases were collected from department of Clinical Pathology, Mahavir Cancer Sansthan, Patna, for assessing the cancer incidence rate in Bihar. The collected data were categorised into sex, cancer sites in tissue and two different geographical zones of Bihar.

The present study was aimed to estimate the organochlorine pesticide(Aldrin, DDT and its metabolite and Endosulfan and its isomers) residues in serum of female reproductive cancers . Breast cancer, ovarian cancer and uterine cancer cases were chosen for this study. Estimation of organochlorine pesticides were done by reverse-phase high performance liquid chromatography (RP-HPLC), which was further confirmed by GC coupled with ECD.

p,p'-DDT, p,p'-DDE and β-endosulfan were frequently detected in the serum samples in all three types of cancer cases. Maximum level of p,p'-DDT, p,p'-DDE and β-endosulfan were detected to be 22 ppb, 40 ppb and 158 ppb respectively. Aldrin was found in very trace amount only in the breast cancer serum samples.

Presence of higher organochlorine level in blood than normal in all three types of cancer cases confirms the correlation between pesticidal toxicity and cancer.

Biography

Priyanka obtained a B.Sc. Hons degree 1st class from T. N. B. College, T. M. B. University, Bhagalpur, Bihar, India. She secured M.Sc. 1st class, 2nd position in Biotechnology from T. M. B. University, Bhagalpur, Bihar, India and deputed to work at Mahavir Cancer Institute & Research Centre, Patna as a registered scholar of T. M. B. University, Bhagalpur for her Ph.D. in a DST sponsored project of Government of India from the last 4 years. She has attended several national and international seminars and also presented papers orally as well as by poster. She is a member of Indian Science Congress.

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