

Dental and Oral Health

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Oral carcinoma, HPV infection and arsenic exposure: Their correlation in West Bengal, India

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Human Papilloma Virus (HPV) infection has been associated with the development of oral carcinoma. Since West Bengal is an arsenic prone area and arsenic toxicity leads to cancer, this metal toxicity is studied as a co-factor in the development of this disease. We have aimed to find out any possible correlation between HPV infection and oral carcinoma along with this metal toxicity. Ethical clearance for this study was obtained from the Ethics Committee of Vivekananda Institute of Medical Sciences, Ramakrishna Mission Seva Pratishthan. Patients attending our hospital were screened for the presence of oral premalignant and malignant lesions. The subjects were administered a standard questionnaire. The buccal swab and hair samples (107 cases and 50 controls) were collected after obtaining informed consent from all the corresponding subjects, and were analyzed for detection of HPV 16 DNA and arsenic level analysis respectively. 22.5% of malignant samples showed the presence of HPV 16 DNA. 80% of cases showed their arsenic count above the safe limit (0.8µg/g). A considerable percentage of malignant samples showed the presence of HPV16 DNA, indicating that there may be a correlation between HPV infection and oral malignancy in this population. A higher percentage of cases showing an elevated arsenic count, state a possible link between arsenic toxicity and the development of this disease. However, a higher population size and statistical analysis are required for a proper conclusion.

Biography

Pritha Pal has completed her MSc in Biotechnology from Presidency College affiliated under the University of Calcutta. She is currently pursuing her PhD in the Department of Genetics, Vivekananda Institute of Medical Sciences, Ramakrishna Mission Seva Pratishthan, Kolkata; registered under Calcutta University. She has published 2 papers in reputed journals in the field of Cancer Genetics and Environmental Studies.

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