

ABSTRACT

Formaldehyde, the common tissue preservative used in anatomy and pathology laboratories find its use in many chemical industries also. This chemical has been documented to cause acute irritating symptoms of eyes, nose and throat. Yet the effect of this chemical on the cellular level causing carcinogenesis remains questionable. And so this study was planned to observe the occupational exposure of formaldehyde upon nasal cytology, hematology and lymphocyte cytogenetic assay.

29 Personnel working in anatomy department, for varied period were taken up for this study. Their nasal mucosal cytology was obtained, smeared and stained. Peripheral blood taken and subjected to total blood count and cytokinetic assay followed by karyotyping.

The Nasal cytology showed mild to moderate squamous metaplasia, abundant eosinophil and mast cells in 24 subjects. Hematology showed pancytopenia in just 4 subjects. In cytokinetic assay Micronuclei were seen in 2 subjects. Nucleoplasmic brideges were found in 3 subjects. And varying numbers of numerous apoptotic and necrotic cells were seen in all 29 studied.

The observed features were found to be related to duration of exposure to formaldehyde. Also it was found associated to the increasing age and gender.

The analysis of this study concludes that formaldehyde does affect nasal cytology profoundly, blood picture minimally and cytogenetic of cell maximally in proportion to duration of exposure and age.