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Abstracts of Posters

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Study of the epidemiology and molecular etiology of thalassemia in Vidarbha region

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Background: Thalassemia is a group of genetic disorders characterized by quantitative defects in globin chain synthesis with subsequent absence or decrease of haemoglobin production leading to variable degrees of microcytic anaemia. It is commonly found in people of Mediterranean, African, Middle Eastern, Indian, Chinese, or Southeast Asian origin. Beta-thalassaemia is an autosomal recessive single gene disorder characterized by reduced (β+) or (β0). Beta globin chain synthesis leading to reduced haemoglobin A (HbA) synthesis. By the advance, PCR based DNA diagnostic techniques; it is now possible to offer diagnosis of thalassemia using extracted blood DNA.

Aim and objective: This study was done with an aim to evaluate the epidemiology and molecular etiology of thalassemia in Vidarbha region.

Materials and methods: 30 sample were collected from thalassemia patients for DNA was extracted from peripheral blood lymphocytes of the patient using Spin column method of blood DNA extraction kit (Vivantis^{TM} GF-1 Blood DNA Extraction Kit). The DNA thus obtained then it was processed by a qualitative conventional PCR reaction to detect the amplification of 4 different genes (4 mutations), using 7 specific primers followed by agarose gel electrophoresis gel electrophoresis of the amplicons and visualized by ethidium bromide. We also collect data regarding the onset of diseases along with some socioeconomic questionnaire.

Result: 30 blood samples were collected from β-thalassemia carriers (minor) from Vidarbha region. Out of four common β-thalassemia mutations, IVS I-nt 5(G-C), IVS I-nt 1(G-T), Co 8/9 (+G) and Co 41/42 (−CTT) were found in random population of Vidarbha region, in 43%, 23%, 17% and 10% respectively.

Conclusion: This observations might help in forming β-thalassemia database of the region which may useful for genetic counseling and prenatal diagnosis.

Conflicts of interest

The authors have none to declare.

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Study of micronuclei of peripheral leucocytes in Kharrah, gutkha panmasala chewers and tobacco product user of Vidarbha region of central India

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Introduction: Tobacco and its product have accepted as important etiologic agents in oral cancer. Tobacco usage in any form is associated with etiology of many diseases for many decades and any approach aimed at detection of population sub-group at increased risk should be considered a high priority task. The peripheral blood cells were known to exhibit changes in cancer of various organs.

Aim: To quantify the micronuclei in peripheral blood leukocytes of gutkha panmasala chewers and tobacco product user of Vidarbha region of central India.

Materials and method: Healthy tobacco chewers ($n = 60$) and healthy non-chewers as controls ($n = 60$) with 30–50 years were selected. A thin blood smears were prepared. Slides were air-dried for 30 min followed by fixation using cold 3:1 methanol and acetic acid solution for 10–15 min, washed twice in PBS (phosphate buffer solution) and stained immediately in 5% Geimsa solution and dried on a hot plate for 5 min and observed under microscope. A minimum of 1000 cells from each individual was screened for calculating frequency of nucleated cells (MNC). The identification of micronucleus was based on the criteria proposed Sarto et al. (20).

Result: The micronuclei levels in patients with tobacco habits were compared with that of the control group and results were found to be statistically significant. The mean micronuclei level in peripheral blood leukocytes between tobacco habituated patients with normal mucosa and oral cancer patients was found to be statistically significant. Micronuclei can differentiate higher tobacco exposure in chewers than chromosomal aberration.

Conclusion: In conclusion, Micronuclei test is most primitive and simple indicator for genotoxicity damage than chromosomal