

Conflicts of interest

The authors have none to declare.

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Lymphocytes DNA damage from panmasala, gutkha, kharrah, chewing tobacco users and chain smokers of central India, by using single-cell gel electrophoresis assay



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Background: Oral submucous fibrosis (OSMF) is a chronic, complex potential potent pre-cancerous condition characterized by juxta-epithelial inflammatory reaction and progressive fibrosis of the lamina propria and deeper connective tissues. As the disease progresses, the jaws become rigid to the point that the sufferer is unable to open his mouth. These events are further influenced by exposures to carcinogenic agents including panmasala, gutkha, kharrah, tobacco consumption and smoking. Single-cell gel electrophoresis assay or comet assay is a sensitive and rapid method for DNA strand breaks; it further provides information on amount of damage among individual cells.

Aim and Objective: In this study, we are aimed to analyse the lymphocyte DNA damage from panmasala, gutkha, kharrah, chewing tobacco users and chain smokers of central India, by using Single-cell gel electrophoresis assay.

Materials & Methods: The peripheral blood samples from 60 addicted participants of age group 30–70 years were collected under sterile conditions in heparinised tubes used for Leukocytes culture and 30 healthy non-OSMF participants of same age group were taken as control. The informed consent was obtained. The comet assay conducted using three well OxiSelect™ Comet Assay Kit and stained with vista green dye, the slides were analysed by using Olympus® BX 51 fluorescence microscope. The results were statistically analysed.

Result: Mean age of participants were 45.31 ± 16.24 (SD). Obtained comets were analysed by the CometScore 1.5 Software. The Comet score analysis shows that the mean % TDNA (Tail DNA) of comet in Leukocytes of addicted participants is found to be 32.61 ± 18.19 (SD) than 6.09 ± 3.17 (SD) mean % TDNA of control participants.

Conclusion: It can be conclude that addiction to panmasala, gutkha, kharrah, chewing tobacco users and chain smokers can damage DNA of peripheral blood leukocytes.

Conflicts of interest

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Genetical basis of Down syndrome



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Objective: The study was designed to evaluate the karyotype pattern, maternal age, clinical features and other systemic anomalies of Down syndrome cases in Tamilnadu population.

Methods: Cytogenetic analysis was carried on 96 cases presented with clinical features of Down syndrome from various special schools of Tamilnadu and retrospective analysis was also done from their medical records.

Results: Out of 96 cases, 94 were true trisomy, one case had translocation and one case presented with 46, XY, der(21;21)(q10;q10) and mother of same case presented with 45, XX, rob(21;21)(q10;q10). In the present study, the mean maternal age was found to be 27.56 ± 5.35 years. In 73% of case mothers of Down syndrome the maternal age was ≤ 30 years; among them 41% were between the maternal ages ranging from 19 to 25 years and 32% ranging from 26 to 30 years. The maternal age ≥ 31 years were found in 27% cases. The most prominent clinical features observed in Down syndrome children greater than 60 percentages were: Epicanthic fold (97%), Mongoloid Slant (96%), High arched palate (89%), Flat Facial profile (83%), Small ears/Low set ears (75%), Short neck (69%), Furrowed tongue (61%), and Brachydactyly (67%) and Depressed Nasal Bridge (58%). Congenital heart disease was diagnosed in 36% among which 24% (VSD), 8% (ASD) and 4% (PFO) respectively. Gastrointestinal anomalies were noted in 3% and hypothyroidism in 14% of cases. Patchy Alopecia Areata was present in 2% cases.

Conclusion: A parental study is more important in the determination of the recurrence risk and to counsel them by providing available options.

Conflicts of interest

The authors have none to declare.

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Variations in the branching of cords of brachial plexus



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Brachial plexus is complex network of nerves, formed by joining and splitting of ventral rami of spinal nerves C5, C6, C7, C8 and T1 forming trunks, divisions and cords. The nerves emerging from trunks and cords innervate the upper limb and to some extent pectoral region. Scanty literature describes the variations in the formation of cords and nerves emanating from them. Moreover the variations of cords of brachial plexus and nerves emanating from them have iatrogenic implications in the upper limb and pectoral region. Hence, study has been carried out. Twenty-eight upper limbs and posterior triangles from fourteen cadavers fixed in formalin were dissected and rare and new variations of cords were observed. Most common variation consisted of formation of posterior cord by fusion of posterior division of upper and middle trunk and lower trunk continued as medical cord followed by originating of two pectoral nerves from anterior divisions of upper and mid-

dle trunk. Other variations include anterior division of upper trunk continued as lateral cord and pierced the coracobrachialis, upper and middle trunk fused to form common cord which divided into lateral and posterior cords, upper trunk gave suprascapular nerve and abnormal lateral pectoral nerve and formation of median nerve by three roots. These variations were analyzed for diagnostic and clinical significance making the study relevant for surgeons, radiologists in arresting failure cases and anatomists academically in medical education.

Conflicts of interest

The author has none to declare.

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A study on secular trend in nasal morphology and nasal index of Meitei male population of Manipur, India



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Introduction: The Nasal Morphology is one such area which contributes theoretically in the understanding of human biological evolutionary process of human face on one hand, and clinical applications in identification of age, sex, ethnicity of unknown identity in forensic medicine and correcting nasal anomalies and naso-facial contour in reconstructive surgery on the other

Objectives: The present study is carried out with the main objective of providing a baseline data of nasal features of Meitei males and also to see if any intergenerational change has taken place in the nasal morphology in the said population

Methods: A cross-sectional random sample of one hundred (100) Meitei males of Manipur belonging to 20-60 years of age were recruited for measurement of Nasal Height and Nasal Breadth. Corresponding Nasal Index of each subject was also calculated and classified accordingly following conventional categories of Martin and Saller. Appropriate statistical tools were used for systematic analysis and interpretation of the data

Results: The findings of the present study reveals that the Meitei males of the two generations show significant difference ($\chi^2 = 18.24$) in the frequency percent distribution as well as in mean value of Nasal Breadth (Previous generation $\bar{x} = 3.70 \pm 0.03$ cm; Present generation $\bar{x} = 3.89 \pm 0.03$ cm) thereby showing a positive secular trend ($t = 4.75$), though no such difference is observed in Nasal height (Previous generation $\bar{x} = 4.85 \pm 0.04$ cm; Present generation $\bar{x} = 4.85 \pm 0.03$ cm, $t = 0.00$, $\chi^2 = 1.4$). The value of Nasal Index show an increase from previous generation ($\bar{x} = 76.60 \pm 0.80$) to the present generation ($\bar{x} = 80.48 \pm 0.80$) thereby experiencing a positive secular trend ($t = 3.43$) though both the population have Mesorhinae nose which is one of the characteristics of a Mongoloid population

Conclusion: The majority of the Meitei population in general have nose with a Nasal Breadth of above Medium category of falling under the range variation of 35–39 mm. A trend of increasing Nasal Breadth from previous generation to the present generation is observed, which may probably be because of change in climatic condition. However, no intergenerational change is observed as far as Nasal Height is concerned. These findings therefore suggest that genetic factor play more important role than natural environmental factor in determining the shape of human nose. One of the clinical applications of the study is that, the findings of the present study

would definitely be useful to the clinicians more particularly the rhinoplastic surgeons in carrying out the rhinoplastic surgery of the nose of mongoloid population

Keywords: Nasal Height; Nasal Breadth; Nasal Index; Mesorhinae; Rhinoplastic Surgery

Conflicts of interest

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The study of correlation between arm span and the stature of north Indian population



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Objective: Age, Sex, Stature are primary characteristics for identification of an individual. Stature has a definite & proportional biological relationship with each and every part of human body i.e., head, neck, trunk & extremities.

In the present study, the correlation between arm span and the standing height in adult males & females, was found to be an accurate predictor of stature. Thus it becomes an important anthropologic tool for the scientists in limb reconstruction surgeries. In mass disasters like train accidents, earthquakes, etc. and where the subject is in highly decomposed, fragmentary & mutilated form, it can be helpful in determining the identity of an individual.

Methods: The present study comprised of 150 medical students of both sexes, of age group between 18 yrs. to 25 yrs. of S.N. Medical College, Agra. The two anthropometric parameters, arm span and stature were used to calculate mean, standard deviation and Pearson's correlation coefficient.

Result: The Pearson's correlation coefficient was found to be 0.9171 and p value was calculated to be <0.00001 thus, showing a positive correlation between the stature & arm span for the medical students.

Conclusion: The findings of present study suggest that arm span can be successfully used for stature reconstruction.

Keywords: Arm Span; Stature; Anthropology

Conflicts of interest

The authors have none to declare.

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Morphological variations in the coronoid process of mandible



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Introduction: The Coronoid process of mandible (from Greek korone, ("like a crown") is a thin, triangular eminence, which is flattened from side to side and varies in shape and size.

Material and Methods: The study was done to rule out the various shapes of coronoid process. The prevalence of this different shape of coronoid process in mandibles