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Exfoliative cytology of buccal cells in submucous fibrosis



Sonia Jaiswal

Era's Lucknow Medical College, India

Introduction: The use of tobacco use has been associated with premalignant and malignant changes in the oral cavity for a long time. Buccal cells form the first barrier in the oral mucosa exposed to smokeless/smoked tobacco hence exfoliative cytology is being effectively used for screening of oral cancer. This method has a sensitivity of 94% and specificity of 100%.

Materials and methods: In a case–controlled study, fifty subjects with oral submucous fibrosis were recruited with the same number of healthy subjects as controls. Exfoliated buccal cells were obtained by scraping the inside of cheeks with an autoclaved spatula, smeared on a slide and later fixed with ethanol. Smears were stained using papnicolou, Feulgan fast and acridine orange. A cytological evaluation of fifty cells per smear was done.

Results and discussion: Keratinized cells, pus cells and dysplasia were observed on analysis. Mohanta et al. concluded that a variability in the shape and size of the cells distinguishes a keratinized cell from a dysplastic one. A cytomorphometric analysis revealed that the nuclear and cellular diameter of cells in cases of submucous fibrosis was lesser as compared to normal cells similar to the results obtained by Ogden et al. Prevalence of micronuclei was higher in cases of submucous fibrosis than in normal cases similar to a study by Casartelli et al.

Conclusion: Exfoliative cytology can serve as an effective tool for mass screening purposes thereby reducing the prevalence of oral lesions.

Conflicts of interest

The author has none to declare.

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Immune cell composition of peripheral blood and synovial fluid in patients of primary knee osteoarthritis



Anjali Aggarwal*, Ravi Shrama, Aditya Aggarwal, Arpan Randhawa, Tulika Gupta, Daisy Sahni

Postgraduate Institute of Medical Education & Research, Chandigarh, India

Background: Involvement of immune system in ageing is a known phenomenon. Osteoarthritis is a well established age-related disease. We aimed to study immune cell composition of blood and synovial fluid in osteoarthritis patients and to see whether the abnormality detected in immunological profile is more than the aging associated defect in immune system.

Material and methods: Phenotype of lymphocytes in peripheral blood from 30 knee osteoarthritis patients and 20 healthy controls and paired synovial fluid of 20 osteoarthritis patients was analyzed by flow cytometry. CD161 expression on CD4+ and CD8+ and CD4– and CD8–T cells was assessed.

Results: The percentage of CD4 T+ CD161+ (35%) and CD8 T+ CD161+ (28%) cell in peripheral blood of osteoarthritis was not much different from the controls. The percentage of CD4 T+ CD161+ in synovial fluid was increased in comparison to peripheral blood where as CD8 T+ CD161+ cell in the synovial fluid was comparable

to peripheral blood of osteoarthritis. Expression of CD4 T+ CD161 was >CD8 T+ CD161 in both peripheral blood and synovial fluid. In controls no association of age with CD4+ was noticed where as the frequency of CD8+ showed declining trend with age. In osteoarthritis patients no association with age was seen.

Conclusion: Alteration of immune system observed in osteoarthritis is different from the immunological dysfunction associated with normal aging. This study supports the hypothesis that osteoarthritis may be a disease with local immunological involvement.

Conflicts of interest

The authors have none to declare.

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Lobular pattern of human pineal gland in relation to age and sex – A histological study



K.G. Arunkumar*, A. Amar Jayanthi

Department of Health Services, Government of Kerala, India

Introduction: Pinealocytes and glial cells, the principal cells in pineal gland are arranged in the form of lobules. Microscopically pineal gland shows changes with advancing age. This work was done to find out influence of age and sex in the lobular arrangement of human pineal gland.

Materials and methods: Ninety adult pineal gland specimens (fifty male, forty female) were collected from human subjects during autopsy. Total sample size was one hundred and two with twelve fetal pineal specimens. After fixation in Bouin's fluid and tissue processing for light microscopy, 4 μm sections were prepared and mounted sections were stained with Haematoxylin & Eosin. Lobular arrangement of the gland produced by septa from capsule was studied for two patterns: lobules with poorly defined septa as incomplete and those with well defined septa as complete. Statistical analysis was done using EpiInfo software.

Results: 57.8% of post natal pineal glands showed incomplete lobules. Age had statistically significant influence on lobules, but not sex, with tendency of lobules to become complete as age advanced. Capsule was present in all fetal pineal specimens but no lobular arrangement of the parenchyma was seen.

Conclusion: Whether changes in the lobular arrangement of human pineal gland have any implication on melatonin secretion by pinealocytes need further histochemical analysis. We hope, this study will contribute additional data to background information already available on pineal gland and thus be helpful to anyone entering the field of pineal research.

Conflicts of interest

The authors have none to declare.

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