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Research Article

SALIVARY FLOW RATE AND EXFOLIATIVE CYTOLOGY OF SMOKERS WITH COMPARITION TO CONTROLS

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A R T I C L E I N F O

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A B S T R A C T

Aim: To evaluate the salivary flow rate and exfoliative cytology of smokers with comparison to controls.
Objective: To compare and measure the salivary flow rates and exfoliative cytology of patients having smoking habit.
Background: Men that smoke present significantly higher stimulated SF than non-smoking men.The irritating effect of tobacco increases glandular excretion,and nicotine causes severe morphologic and functional alterations in the salivary glands. Change in the resting whole-mouth salivary flow rate (SFR) plays a significant role in pathogenesis of various oral conditions. Factors such as smoking may affect SFR as well as the oral and dental health. The primary purpose of this study was to determine the effect of smoking on SFR, and oral and dental health.
Reason: Saliva represents an increasingly useful auxiliary means of diagnosis. The main factor affecting salivary composition is the flow index which varies in accordance with the type, intensity, and duration of the stimulus.here the stimulus is tobacco.

INTRODUCTION

Tobacco smoke is a complex mixture of more than 4500 chemicals, many of which have toxic and/or carcinogenic activity.[1] Some of the components, which could be in the form of gases, vapors, and particulates, include carbon monoxide, hydrogen cyanide, phenols, acrolein, ammonia, formaldehyde, nicotine, nitrosamine, tar, heavy metals, and at least 48 known cancer-producing substances.[2]

Cigarette smoking is a worldwide social epidemic and it is one of the main causes of preventable death and disability.[1] It is an established risk factor for premature mortality due to cancer, cardiovascular disease, and chronic obstructive pulmonary disease.[3] The increased susceptibility of cigarette smokers to infections reflects multifunctional alteration of their innate and adaptive immune responses.[1,3]To the literature on the relationship between smoking and oral pathology. In Italy smoking is the cause of half of periodontal disease and three quarters of cancers of the oral mucosa, confirming the predominant role of smoking and alcohol among the risk factors and the multiplier effect of massive exposure to both.[4]

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This study focus on exploring various cytological and floral changes by comparing smokers patients with the controls. Smokers has multifactorial complications. There is high risk of gingivitis, periodontitis, oral candiasis and other related complications that may occur in smokers individuals. Human saliva is not just a fluid in the oral cavity but it reflects the various altered oral microbial flora and nature of the cells during study of exfoliative cytology. Exfoliative cytology is a non invasive, non aggressive procedure and is accepted by the patients, aid in quick and accurate assessment [5].

MATERIALS AND METHOD

He study included 20 individuals above 30 years of age of which 10 individuals were normotensive and the remaining 10 individuals were smokers. Salivary samples were collected and exfoliative cytology was studied by taking a smear and oral microbial flora was studied by making a swab. Two types of staining namely PAP and H and E were used for staining. Statistical analysis was done using Chi square test. Smears were taken from the buccal mucosa with the wooden sticks moistened in water and then transferred onto the slides which were marked previously with the patient's reference number and spread uniformly thin over the slides followed by staining and mounting. Similarly swab was taken from the oral cavity using a cotton swab and then cultured in a nutrient agar culture plates.

Inclusion criteria

- Patients with the known history of smokers for the past one year.
- Smokers patients with a recently monitored Blood pressure levels.
- Control groups includes normotensive individuals with no history of hypertension, diabetes, smoking or other systemic complications .

Exclusion criteria

- Alcohol consumption
- Medications taken other than anti smoking drugs.

RESULT

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**20.000[a]**	**10**	**.029**
Likelihood Ratio	12.781	10	.236
Linear-by-Linear Association	.026	1	.873
N of Valid Cases	10		
a. 18 cells (100.0%) have expected count less than 5. The minimum expected count is .10.			

Micronuclei is a smaller nuclei formed when the fragment of the chromosome is not incorporated into the daughter nuclei. Micronucleus formation can be caused by chromosomal breakage or through the dysfunction of the mitotic spindle apparatus. Thus, micronucleus formation can be, in part, caused by replication errors as a result of persistent DNA damage at the time of S-phase.

And is a sign of genotoxic and chromosomal in stability. There's increased nuclear cytoplasmic ratio in hypertensive individuals in comparison with the normotensive individuals. The oral microbial flora of the hypertensive individuals consist maximum percentage of streptococcus, enterococcus, and a few G- tive bacilli and the oral flora seen in normotensive individuals is the candida species.

DISCUSSION

Cigarette smoking is among social practices commonly found in some Nigerian youth, despite its adverse health consequences.[6] Gingivitis, periodontitis, pocket depth, attachment loss, alveolar bone loss, and tooth loss are some of oral pathologies commonly found in cigarette smokers.[9] Tobacco smoking predisposes to infection, emphysema, and lung cancer. Herr *et al*.[17] reported that current or former smoking is associated with reduced levels of human β-defensins 2 (hBD2) in pharyngeal washes and sputum of patients with acute pneumonia. Of note, smoking is associated with reduced levels of surfactant proteins A and D (SP-A and SP-D).[18,19]

CONCLUSION

Since the calculated value (0.029) is less than table value (0.05). So there is a significant difference between two samples. Exfoliative cytology thus serves as a simple and non invasive procedure alternative to biopsy. In exfoliative cytology the shed cells are studied and the oral microbial flora gives an idea about the altered oral flora in various conditions. The results contribute to the understanding of alteration in the oral epithelium pertaining to the number, size, and color of the micronuclei and the altered microbial flora in comparison with the controls.

Reference

1. Sopori M. Effects of cigarette smoke on the immune system. *Nat Rev Immunol*. 2002; 2:372–7. [PubMed]
2. Howard G, Wagenknecht LE, Burke GL, Dies-Roux A, Evans GW. Cigarette smoking and progression of Atherosclerosis. *JAMA*. 1998; 279:119–29. [PubMed]
3. Arcavi L. Benowitz NL.Cigarette Smoking and Infection. *Arch Intern Med*. 2004; 164:2206–16. [PubMed]
4. Finkelstain EI, Nardini M, van der Vilet A. Inhibition of neutrophil apoptosis by acrolein; a mechanism of tobacco-related lung disease? *Am J Physiol Lung Cell Mol Physiol.* 2001; 281:L732–9. [PubMed]
5. Holt PG, Keast D. Environmentally induced changes in immunological function: Acute and chronic effects of inhalation of tobacco smoke and other atmospheric contaminants in man and experimental animals. *Bacteriol Rev*. 1977; 41:205-16. [PMC free article] [PubMed]
6. Arinola OG, Obikoya MA. Differential Effects of Alcoholic Beverages and Cigarette Smoke on Humoral Immunity. *Afr J Biomed Res*. 2009; 12:241-4.
7. Eichel B, Sharik H. Tobacco smoke toxicity: Loss of human oral leukocyte function and fluid cell metabolism. *Science*. 1969; 166:1424. [PubMed]
8. Kenny EB, Kraal JH, Saxe SR, Jones J. The effect of cigarette smoke on human oral polymorph nuclear leukocyte. *J Periodont Res*. 1977; 12:227-34. [PubMed]
9. Ramli J, Taiyeb ATB. Association between smoking and periodontal disease. *Annal Dent Univ Malaya*. 1999; 6:21–6.
10. McGuire J, McQuade M, van Dyke T. Cotinine in saliva and gingival crevicular fluid of smokers with periodontal disease. *J Periodontol*. 1989; 60:176-81. [PubMed]
11. Matthews JD, Whittingham S, Hooper BM, MacKay IR, Stenhouse NS. Association of antibodies with smoking, cardiovascular morbidity and death in the Busselton population. *Lancet*. 1973; 2:754-9. [PubMed]
12. Masdotirr B, Jónsson T, Manfreðsdóttir A, Vikingsson A, Brekkan A, Valdimarson H. Smoking, rheumatoid factor isotypes and severity of rheumatoid arthritis. *Rheumatology*. 2000; 39:1202–5. [PubMed]

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