

PP 21

Candida infection in oral leukoplakia: Site of infection, etiology and effect of smoking, betel chewing and alcohol consumption

Dilhari KAA¹, Gunasekara TDCP¹, Siriwardhana SJAP¹, Maheshika LO¹, Karunathilaka AHTS², Fernando SSN¹, Weerasekera MM¹

¹Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura, ²Oral and Maxillo-Facial Clinic, Colombo South Teaching Hospital, Kalubowila

Objectives: The study aimed to determine the etiology of oral leukoplakia and the site of infection among patients attending Oral and Maxillo-Facial clinic at Colombo South Teaching Hospital. Further risk of smoking, betel chewing and consumption of alcohol among Candida associated leukoplakia was determined.

Methods: Clinically suspected 80 oral leukoplakia patients were included. Data was collected using a questionnaire. An oral swab was collected from the lesion while the control swab was collected from an unaffected area. Germ tube, sugar assimilation, chlamydospores and CHROMagar tests were used for yeast speciation.

Results: Candida associated leukoplakia was seen in 47% (38/80) of patients. *C.albicans* (94.7%) was the commonest pathogen. Majority of Candida associated leukoplakia lesions were seen in the buccal mucosa. Alteration of taste (p=0.021), having lesions in the oral cavity (p=0.008), angular cheilitis (p=0.024) and periodontitis (p=0.041) showed a significant association. Smoking (p=0.026) and betel chewing (p=0.006) were significant risk factors for Candida associated leukoplakia. Among the patients (n=35) claiming to have all three habits of smoking, betel chewing and alcohol consumption 23 were positive for Candida. Cigarettes smokers were more prone to have candidal infection (16/23). Majority had chewed >2 betel-quid/day (18/23). Fifteen had chewed betel quid for >20 years. Thirteen out of 23 had consumed alcohol 1-8 times /week.

Conclusions: The patients who had all three habits of smoking, betel quid chewing and alcohol consumption together were significantly at a higher risk of developing Candida associated leukoplakia. *C.albicans* was the most common pathogen.

PP 22

Do we have clean domestic water sources? A study on microbiological quality of domestic wells in Maharagama and Boralesgamuwa MOH areas

Pellawattage M¹, Damayanthi N¹, Widanagamage RD², Priyadarshani AMB¹, Uluwaduge I¹, Wijesekara GUS¹

¹Department of Allied Health Sciences, Faculty of Medical Sciences, University of Sri Jayewardenepura

²Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University

Objectives: To investigate the microbiological quality of well water samples collected from Maharagama and Boralesgamuwa MOH areas.

Methods: Water samples were collected from a total of twenty five domestic wells from Maharagama and Boralesgamuwa MOH areas. The coliforms and *E. coli* counts were enumerated using multiple tube method as per "Sri Lanka standard specification for potable water Part 2 - 1983: Bacteriological requirements (SLS 614: Part 2: 1983)". The results were interpreted according to the "Sri Lanka Standard 614: 2013 - Specification for potable water". The interviewer administered questionnaire was used to collect the data regarding factors that could attribute to microbial contamination.

Results: Results revealed that twenty of the wells were unsuitable for consumption as coliforms and *E. coli* were found to be above the Sri Lankan Standards i.e., more than 10 coliform bacteria/100 mL and detection of *E. coli*/100 mL, respectively. Twenty of the wells were positive for total coliform count where as five of them were positive for *E. coli*, indicating a recent faecal pollution. However, the results highlighted the fact that the occurrence of coliforms is predisposed with the distance between the wells and the toilet pit was less than 10 m.

Conclusions: Twenty of the wells analyzed were not secure microbiologically for drinking without additional treatments such as boiling or disinfection. The appropriate environmental and personal hygiene must be maintained by the users to avoid contamination with microorganisms otherwise this could lead to outbreak of water borne diseases.