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Fungi in the oral cavity: The opportunistic foes

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Candida is a dimorphic fungus commonly isolated in skin, mucosa, gut and genitourinary tract. Over 50% oral cavities are colonized by Candida as a commensal organism. Due to its versatility and the ability to live in many body sites, Candida is considered an important opportunistic pathogen. According to US National Nosocomial Infections Surveillance System, Candida is the 4th most common cause of bloodstream infection. Candida biofilms can readily develop in immunocompromised hosts including individuals under immuno suppressives or broad-spectrum antibiotic therapy, neonates, patients with diabetes and HIV, and patients having in dwelling devices. Thus, Candida becomes opportunistically pathogenic and causes superficial infections in the mucosa to deep, invasive and life-threatening systemic candidiasis. In addition the incidence of noncandidal oral infections such as aspergillosis, cryptococcosis, histoplasmosis, blastomycosis, paracoccidioidomycosis, and zygomycosis (mucormycosis) is gradually increasing. Thus, the knowledge of oral fungal infections will be highly beneficial for oral health care professionals in the prevention and management of such infections in routine dental patients.

Biography

Nihal Bandara has received his Bachelor of Dental Surgery (BDS) with honors from The University of Peradeniya, Sri Lanka, and graduated with honors as the Most Outstanding Dental Student of Sri Lanka (2001-2006). Subsequently, he received his PhD in Oral microbiology (specializing, in mycology, bacteriology and molecular biology) from The Faculty of Dentistry, the University of Hong Kong under three distinguished scientists, Professor Lakshman Samaranayake, Professor L J Jin and Dr. Rory Watt. His thesis was based on the communal interactions of Candida and bacteria in mixed species biofilms that could cause a variety of oral and non-oral infections. After completion of his PhD, he joined the laboratory of Dr. Hugh Smyth at the College of Pharmacy, University of Texas at Austin, Texas, USA to pursue work on novel approaches for drug delivery into microbial biofilms. Currently, he is a Senior Postdoctoral Research Fellow at the School of Dentistry, University of Queensland, Australia and investigates on eradication of oral candidal infections using novel drug delivery technologies. He has published over 15 research articles, 2 book chapters, 2 provisional patents and many abstracts and attended a number of international conferences. He has won many national and international awards for his excellence in dentistry and research. Specially, the International Association for Dental Research awarded him the IADR Research in Prevention Travel Award at its 89th General Sessions held in California. Also, in 2011, the University of Hong Kong awarded him the Research Output Award for the most outstanding scientific output from its Faculty of Dentistry.

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