IADR Abstract Archives

Oral Candida Colonization and Risk Factors Among Type-II Diabetic Individuals

Objectives: The purpose of this cross-sectional study was to ascertain and compare the prevalence of different *Candida* species isolated from tongue dorsa and saliva samples among type-II diabetic and non-diabetic individuals from Ras-Al-Khaimah. Furthermore, associated risk factors for *Candida* colonization and their biofilm production ability were also studied.

Methods: The study involved 126 adult individuals. There were 63 diabetic individuals in the test group and 63 non-diabetic individuals in the control group. Tongue scraping technique and spitting method were used for sample collection. *Candida* species identification was performed using Sabouraud Dextrose agar, CHROM agar culture and germ tube test. Risk factors affecting *Candida* colonization were evaluated by clinical oral examination and survey. Biofilm production was assessed using crystal-violet microtiter plate method.

Results: *Candida* species were detected in (39.7%) of diabetic individuals compared to (20%) in the control group (P<0.05). *C. albicans* followed by *C. glabrata* were the most prevalent species in both diabetic and control groups. *C. tropicalis* and *C. parapsilosis* were isolated only from the diabetic group. Diabetic individuals with dry mouth, poor oral hygiene and low saliva pH levels had significantly higher *Candida* colonization (P<0.05). Increased biofilm production was observed in the diabetic group (40%) as compared to the control group (23%).

Conclusions: In our study, *C. albicans* emerged as the most prevalent species isolated from type-II diabetic individuals in Ras-Al-Khaimah population. Poor oral hygiene, xerostomia and low saliva pH were found to be contributing factors for *Candida* colonization in type-II diabetic individuals. The study is the first study from the United Arab Emirates to screen immunocompromised diabetic individuals for oral *Candida* colonization. The high prevalence rate along with the increased biofilm production among diabetic individuals establishes the pathogenic potential of *Candida* as an opportunistic pathogen. Our study reiterates the importance of oral screening of opportunistic fungal pathogens especially among immunocompromised population.

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