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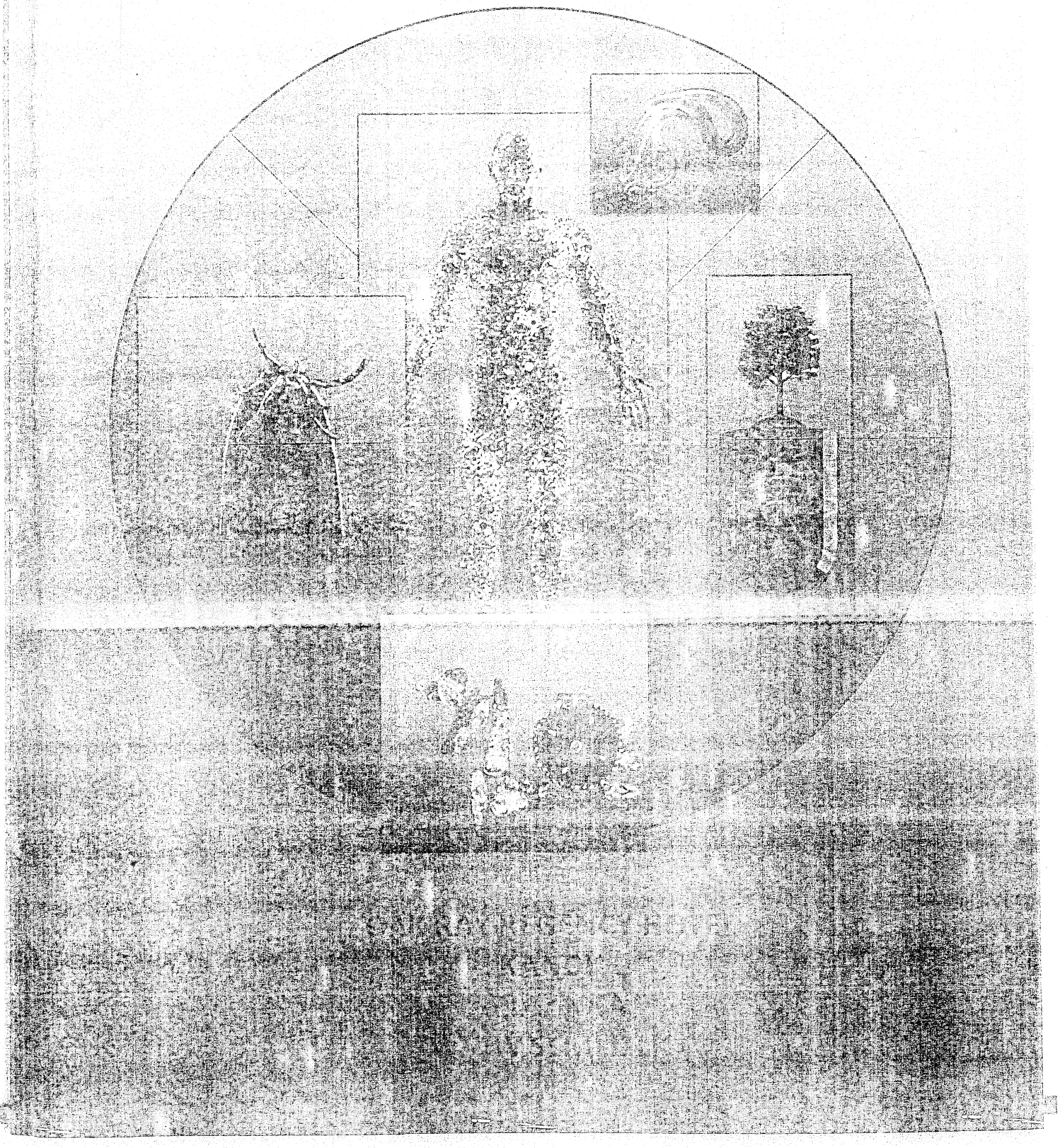
ABSTRACT AND DELEGATE INFORMATION 2017



OP-16

Identification of colonized oral *Candida* species in patients with type II diabetes using PCR-restriction fragment length polymorphism

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Oral candidiasis is being frequently recognized in patients with diabetes due to elevated glucose in their oral fluids and immune dysfunction. Identification of oral *Candida* spp using phenotypic methods are time consuming and potentially unreliable. Genotypic methods have been used extensively for the detection and typing of Candida strains, but have been used less frequently for species differentiation. The purpose of this study was to identify *Candida spp.* isolated from the oral cavities of patients with type II diabetes, by using PCR-RFLP.

This study included 250 patients with type II diabetes mellitus who were attending the Endocrinology Clinic at Colombo South Teaching Hospital. Concentrated Oral rinse samples were subjected to PCR-RFLP, germ tube test and sugar assimilation. Candida colony count was obtained and 2000 CFU/mL was considered as patients at risk of infection. ITS 1and ITS 2 region of fungal rDNA genes were amplified by PCR using universal primers ITS1 and ITS 4 and subjected to *MSP I* restriction digestion for identification of *Candida* species including *C. albicans, C. parapsilosis, C. tropicalis, C. glabarata* and *C. krusei.*

Of the 250 patients, 204 were culture positive and 82 were at risk of oral candida infections (CFU/ml > 2000). Of the 204 culture positive patients, 88 had multiple *Candida* spp. *C. albicans* (167/204) was dominantly isolated followed by *C. parapsilosis* (57/204), *C. tropicalis* (45/204), *C. krusei* (14/204) and *C. glabarata* (4/204). PCR RFLP successfully identified *C.albicans* (172/204) as the dominant species followed by *C. parapsilosis* (54/204), *C. tropicalis* (40/204), *C. krusei* (9/204) and *C. glabarata* (8/204). Unidentified yeast species by both PCR-RFLP and phenotypic identification were also present among the population. Of the 82 patients with risk of candida infections, 35 and 32 had multiple *Candida* spp when analyzed using PCR-RFLP and the phenotypic method respectively. *C. albicans* (71/82) as the dominant species followed by *C. tropicalis* (19/82), *C. parapsilosis* (16/82), *C. glabarata* (7/82) and *C. krusei* (4/82) using PCR-RFLP. In conclusion PCR-RFLP is a specific, simple and accurate molecular method for fungal identification and the method can be applied to identify important oral *Candida* spp.

Keywords: *Candida* spp, Oral rinse, Type II diabetes mellitus, PCR-RFLP

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