

ABSTRACT

Candida albicans infection is often found in oral cavity of patients with DM. However, the mechanism of immune response change of the infection remain unclear, due to the disagreement on the role of immune response change that influence the colonization of *C.albicans*, particularly among DM. To date, information on factors and immune response change occurs in *C.albicans* infection remains rare, because in such condition clinical manifestation has not been induced.

Candida albicans is a normal flora, which is also an opportunistic pathogen because it becomes a pathogen in immunocompromised condition. Such condition in patients with DM may occur because high blood glucose level will react non-enzimatically with protein, which may change the structure and function of protein, so that it becomes immunogen.

This study was done to disclose the immunopathobiogenesis of oral *C.albicans* infection in patients with DM. If the immunopathobiogenesis of *C.albicans* is recognized, the therapy can be done more accurately because it is based on a clear pathogenesis.

Therefore, in this study systemic and local immune response were compared between DM groups with high HbA1c level with (A1) and without *C.albicans* (A2), and non-DM with (B1) and without *C.albicans* infection (B2).

Result obtained in this study were:

1. Systemic immune response :
 - 1) A2 >< B2 = showed difference
 - 2) A1 >< A2 = showed no difference
 - 3) A1 >< B1 = showed no difference
 - 4) B1 >< B2 = showed difference
2. Local immune response :
No difference for all groups
3. After systemic and local immune responses were combined, discriminant analysis was done. Three predominant differential variables were found among four groups studied and these were described in an immuno-pathobiological pattern. Based on this immunopathobiological pattern, it can be theorized that the role of Th1 produce IFN-gamma increases IgM switching to IgG which is important to prevent the occurrence of *C.albicans* infection.

It can be concluded that immunopathobiological pattern can be used to disclose the immunopathobiogenesis of oral *C.albicans* infection of patients with DM.

Keywords: *immunopathobiogenesis, oral immune mucosal, C.albicans infection, Diabetes Mellitus*