

Oral *Candida* Colonization as a Risk Factor for Chronic Inflammation and Atherosclerosis in Hemodialysis Patients

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Chronic inflammatory process is a common finding in patients with Chronic kidney disease (CKD). This process is linked with: protein energy wasting, cardiovascular disease and mortality [1]. Chronic inflammatory process causes decreased clearance of pro-inflammatory cytokines, volume overload, oxidative and carbonyl stress, decreased levels of antioxidants, high frequency of co-morbid conditions,

Chronic Inflammation also causes protein-energy malnutrition, poor quality of life, increased mortality, resistance to erythropoietin-stimulating agents.

***Candida* and inflammation**

Candida spp. can maintain survival as commensal organism [5]. Oral yeast colonization could lead to systemic inflammation in the patients with diabetes mellitus, defective immune system, xerostomia and dental prosthesis [6,7].

Candida is the most frequently isolated fungal species in the population who has dental prosthesis. In the literature, oral yeast colonization in hemodialysis patients have been detected between 39% - 43% of frequency [8].

***Candida* spp. and Hemodialysis**

Gulcan A., *et al.* demonstrated the association of oral *Candida* colonization in renal replacement treatment (RRT) patients with higher BMI, dental prosthesis and higher plasma CRP levels [9].

Inflammation and Atherosclerosis

Systemic inflammation which is controlled by tumor necrosing factor alpha (TNF- α), IL-1, 6 and 8, inhibits production of lipoprotein lipase and induce atheromatous plaque development [10]. O'Neil., *et al.* demonstrated that chronic inflammatory process can cause to inhibition of endothelial protective effects of HDL [11]. Studies also showed that HDL's endothelial protective functions recovered with resolution of inflammation.

Oral *Candida* colonization might be contribute chronic inflammation and poor cardiovascular outcome in these patients

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