

Effect of interleukin-33 on T-Helper17 cytokines InterleukinL-17 and InterLeukin-22 in saliva of patients with oropharyngeal candidiasis

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Abstract: oral candidiasis is a mycosis (yeast/fungal infection) of *Candida* species on the mucous membranes of the mouth. Humeral immune response to candidal infection has much theory according to site of infection mediated by T-helper maturation, differentiation and secretion of cytokines. Interleukin-33 is one of the IL-1 super families which are called alarming cytokines family as they inform the immune system about any tissue injury, infection or necrosis. IL-33 is multifunctional cytokines that has anti-inflammatory (protective), inflammatory effect on tissue by modulating the action of T-Helper17.

Aim of study : to study the effect of InterLeukin-33 on T-Helper 17 cytokines InterLeukin-17 and InterLeukin-22 in saliva of patients with oropharyngeal candidiasis before and after therapy with Nystatine in comparison to control.

Materials and methods: forty patients visiting AL-Yarmouk teaching hospital /Baghdad were included in this study having clinical symptoms of oral candidiasis and after a positive confirmation of infection using slandered mycological techniques and identification to species using smearing methods and swab culturing on chromagar media, saliva samples were collected from them between 8:00 and 11:00 am and centrifuged and stored at -60 c⁰ until immunological analysis using ELISA kits.

Result: there are a significant difference in median Of IL-17 in saliva of patients and control were respectively (85.4, 440.4), ($p < 0.001$). Median value of IL-22 was higher in patients than control group was respectively (429.9, 38.3) and the difference was statistically significant with $p < 0.003$.

IL-33 median value in control group was lower than patient group were (227, 2 – 585, 2) respectively and statistically significant p value (< 0.001). There are a great reduction in IL-17 and IL-22 after treatment with a median value of (-278.9, -134.35) respectively. At the same time IL-33 concentration elevated after therapy and the difference was (203.35)

Conclusion: IL-33 has local protective effect (anti-inflammatory) on mucosa by decreasing the secretion of IL-17 and IL-22 in saliva of patients with oropharyngeal candidiasis and so reduces tissue damage caused by excessive immune response.

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