

**Estimation of Some Salivary variables
and Oral Health Status of Patients
with Chronic Myeloid Leukemia Aged
45-55 years**

A thesis

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Abstract

Back ground: Chronic myeloid leukemia is a cancer of the white blood cells characterized by the increased and unregulated growth of predominantly myeloid cells in the bone marrow.

Aim of the study: To determine the effect of chronic myeloid leukemia on Dental caries and Oral health status including Gingivitis, Loss of attachment, Plaque index and Calculus index as well as evaluation of salivary flow rate and salivary interleukins-6 and tumor necrosis factor- α .

Material and methods: The total sample consisted of (75) subjects, (25) were newly diagnosed with chronic myeloid leukemia, (25) were taking medications (Glevic), and (25) were control subjects, all aged 45-55 years old. Collection of stimulated salivary samples was performed under standard conditions, then salivary flow rate and salivary cytokines estimation was done. Clinical examination and oral health assessment were carried out under the standardized conditions of oral health surveys of World Health organization. Dental plaque was scored following the criteria of plaque Index by Silness and Loe(1964), Dental calculus was scored following the criteria of calculus component of the periodontal Index (Ramfjord, 1959), assessment of gingival health done following the criteria of gingival Index for Loe and Silness (1963) and loss of attachment done following the criteria of WHO (1997). Caries assessment was done according to the WHO modified Decayed-Missing-Filled Index (DMF) and examination was done with a plane mouth mirror and CPI probe.

Results: DMFS index were higher in the newly diagnosed group (27.20 ± 5.02) followed by the control group (25.96 ± 2.27) and then the treated group

(22.20±4.29) but the LSD test showed that differences were statistically not significant between each two groups. Plaque index was higher in the newly

diagnosed group (1.56±0.11), and the differences were statistically significant only between the newly and the control group ($p<0.05$). Calculus index was higher in the newly diagnosed group (0.32±0.06) and the difference was statistically significant between the newly diagnosed group and the treated group. Gingival index was higher in the control group (0.49±0.06) and the difference was statistically highly significant between the new and control groups ($p<0.01$) and also highly significant between control group and the treated group. Loss of attachment index was higher in the control group (0.56±0.10) the LSD test show that the difference was statistically significant between the control group and each one of the other two groups.

In regard to saliva, salivary flow rate was higher in the control group (1.96±0.11); the difference was significant between the control and the newly diagnosed group and highly significant between control and the treated group. Interleukin-6 level was higher in the newly diagnosed group (134.20±60) then the treated group (76.86±18.25) then the control group (56.00±8.33). LSD test show that the difference was statistically significant between the new and the treated group ($p<0.05$) and it was highly significant between the new and the control group ($p<0.01$) but it was not significant between the treated and control group. TNF- α level was higher in newly diagnosed group (135.20±13.28) followed by the treated group (99.40±6.72) then the control group (88.60±7.82) and the difference was statistically significant with the treated group and highly significant with the control group, but the difference was not significant between the treated and the control group.

Conclusion: Differences in caries experience among the three groups were not significant; Plaque index and Calculus index were higher in the newly diagnosed group while gingivitis and loss of attachment were higher in the control group. Salivary flow rate was higher in the control group and salivary Interleukine-6 and Tumor necrosis factor- α levels were higher in the newly diagnosed group. No significant difference was detected between male and female in all the variables except in IL-6 in the newly diagnosed and the control groups and the plaque index in the treated group.