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**Correction of Cytokine Misbalance Between Pro-inflammatory TNF-alpha and Anti-inflammatory IL-4 in Patients with Chronic Generalized Periodontitis**

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The purpose of study was to increase of efficiency of complex treatment the patients with CGP of initial-I degrees of severity with gel from the granules of GQ and liposomal LQLC due to the correction of cytokine levels.

The 35 patients with CGP of initial-I degrees of severity were observed in the morning were conducted of mouth liquid (ML) before treatment and through 1, 6 and 12 months after treatment for immunological researches. The patients of basic group was conduct base therapy with the local application LQLC (injection form of «Lipoflavon») as a suspension, prepared ex tempore, containing 137,5 mgs of lecithin and 3,75 mgs of Quercetinum. This suspension prepared at a premix 1/4 parts of content of small bottle with 5 ml 0,9% solution of natrium chloride, warmed-up to 380. The patients of comparison group was conduct base therapy with local application of gel from GQ with the use of individual periodontal delivery tray during 40 minutes 2 times per a day to 10 days.

The cytokine level of the patients of control group was TNF- $\alpha$  -  $21,71 \pm 2,95$  pg/ml, whereas that of the anti-inflammatory was IL-4 -  $243,5 \pm 17,48$  pg/ml. The cytokine level of the patients with initial and I degrees of severity in the basic group after treatment during one month was TNF- $\alpha$  -  $25,46 \pm 1,28$  pg/ml and anti-inflammatory IL-4 -  $316,2 \pm 10,73$  pg/ml, which was 30 % lower than that in the C groups. The patients in the comparison group after treatment during one month were determined with TNF- $\alpha$  -  $29,36 \pm 2,61$  pg/ml and anti-inflammatory IL-4 -  $359,9 \pm 10,36$  pg/ml, which was 48 % lower than in the C groups. The cytokine level of the patients with initial and I degrees of severity in the basic group before treatment was TNF- $\alpha$  -  $44,91 \pm 3,63$  pg/ml, which was 107 % higher than in the C groups and anti-inflammatory IL-4 -  $220,9 \pm 11,89$  pg/ml, which was 9 % lower than in the C groups. The patients in the comparison group before treatment were determined with TNF- $\alpha$  -  $45,29 \pm 2,95$  pg/ml, that was 109 % higher than in the C groups and anti-inflammatory IL-4 -  $219,1 \pm 7,74$  pg/ml, that was 10 % lower than in the C groups. The cytokine level of the patients with initial and I degrees of severity in the basic group after six-month treatment was TNF- $\alpha$  -  $27,51 \pm 2,57$  pg/ml, which was 107 % higher than in the C groups and anti-inflammatory IL-4 -  $292,2 \pm 20,77$  pg/ml, which was 19 % lower than in the C groups. The cytokine level of the patients in the comparison group after six-month treatment was TNF- $\alpha$  -  $32,72 \pm 3,56$  pg/ml, which was 109 % higher than in the C groups and anti-inflammatory IL-4 -  $261,7 \pm 16,25$  pg/ml, that was 17 % lower than in the C groups. The cytokine level of the patients with initial and I degrees of severity in the basic group after twelve-month treatment was TNF- $\alpha$  -  $24,82 \pm 1,6$  pg/ml, which was 10 % lower than in the C groups and anti-inflammatory IL-4 -  $289,9 \pm 10,91$  pg/ml, which was 1 % higher than in the C groups. The cytokine level of the patients in the comparison group after twelve-month treatment was TNF- $\alpha$  -  $31,44 \pm 2,43$  pg/ml, which was 4 % lower than in the C groups and anti-inflammatory IL-4 -  $244,8 \pm 16,53$  pg/ml, which was 6 % lower than in the C groups.

**Conclusion:** The research in question demonstrates lipoflavon capability to normalize homeostasis of the oral cavity, normalize misbalance of cytokines in periodontal tissues, thus retarding process of inflammation and destruction of tissues and improving reparation of periodontal structures. High therapeutic efficacy of the liposomal quercetin-lecithin complex for treatment patients with chronic generalized periodontitis, especially that of initial and I degrees of severity is based on its marked anti-inflammatory, immunomodulating and periodontoprotecting effects. This allows to recommend lipoflavon for local application as pathogenetically substantiated drug in treatment of generalized periodontitis.