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Paper Poster Session

Fungal infection epidemiology

Mucosal immunity in haematological patients with oropharyngeal candidiasis

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Background: Oropharyngeal candidiasis (OC) is common complication in hematological patients. The pathogenesis of OC in these patients not well understood

Material/methods: In prospective study we included 43 hematological patients (lymphoma - 49%, acute myeloid leukemia - 23%, multiple myeloma – 16%, other – 12%) with OC (median age - 54 y (range 21-78), males – 49 %) and 59 hematological patients (lymphoma - 57%, acute leukemia - 13%, multiple myeloma – 18%, other – 12%) without OC (median age - 60 y (range 21-82), males – 49 %). Control group included 19 healthy people (median age – 27 years (range 26-31), males – 42 %). Oral

fluid samples were tested for IFN- γ , IL-17, IL-8, IL-6, TNF- α , G-CSF, MCP-1, DEFb2, SLPI with ELISA test («Cytokine», «Vector-best» Russia; «Cloud-Clone Corp», and «R&D», USA).

Results: Before chemotherapy in all patients compared with the control group was increased local synthesis of TNF- α (6 (3÷13) vs 2 (2÷3) pg/ml; p<0,05), IL-17 (7 (5÷10) vs 3 (2÷6) pg/ml; p<0,05) and G-CSF (18 (10÷93) vs 8 (2÷9) pg/ml; p<0,05). After chemotherapy in all patients was reduced the activity of the local synthesis of TNF- α (2 (1,6÷2) vs 6 (3÷13) pg/ml; p<0,05). In patients with OC were increased levels of DEFb2 (95 (17÷174) vs 34 (0÷86) and 53 (24÷104) pg/ml, p<0,05), and SLPI (3442 (603÷7649) vs 2514 (399÷7490) and 1918 (522÷3950) ng/ml, p<0,05), compared to patients without OC and control group. In patients without OC were increased levels of MCP-1 (156 (62÷188) vs 88 (44÷154) and 44(30÷53) pg/ml; p<0,05) and IFN- γ (39 (23÷53) vs 28 (18÷42) and 49 (11÷59) pg/ml; p<0,05).

Conclusions: Thus, the increase in cytokines production, activating neutrophils and other cells of the innate immune system, may indicate the increase of antimicrobial protection in the conditions of T-dependent mechanism deficiency, but can cause inflammatory mucosal damage, which in turn may facilitate oropharyngeal candidiasis