



## **IL-4, TSLP, IL-31 cytokine profile in patients with psychological disorders in mastocytosis**

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### **Introduction**

Mastocytosis key feature is uncontrolled proliferation of mast cells, which may affect different organs. Common symptoms are caused by mast cells degranulation. It is recognized that cognitive dysfunctions and depression are more prevalent in patients with systemic mastocytosis, though little is known about mechanism behind this. In mastocytosis Th type 2 inflammation occurs frequently.

### **Aim**

To investigate the Th2 cytokine profile in patients with mastocytosis in relations to classic degranulation symptoms and psychological symptoms.

### **Material and methods**

115 patients were enrolled in the study. Mini Mental State Examination (MMSE) was performed for all subjects. Other variables included: Quality of Life in Mastocytosis, Hamilton 17 Depression scale, Pruritus Visual Analog Score, serum tryptase. Serum concentrations of IL-4, TSLP, IL-33 and IL-31 measured with ELISA were analyzed as primary outcomes. For comparison with continuous variables simple linear regression was used.

### **Results**

Out of 115 recruited patients 30 (26%) patients presented cognitive dysfunctions: 9 with dementia (7.8%) and 21(18%) with minimal cognitive impairment. Mean MMSE result was 27.9. Mean result of HDRS was 9.98 points and in total 68 (59%) patients presented signs of



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depression. Mean concentrations of IL-4, IL-31, TSLP were 412.9, 204.9 and 294.5 respectively. IL-33 concentration analysis resulted in 0 for all patients (was not detected). Regression analysis did not reveal significant correlation between cytokines serum concentrations and questionnaire endpoints, nor tryptase serum level.

## Conclusions

One in four patients with mastocytosis presents cognitive dysfunctions and 59% - depression. This impairment does not correlate with IL-4, TSLP nor IL-31 serum concentrations.

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Praca nie była prezentowana na kongresie PTA.