

MATERIALS AND METHODS

The study included patients from Endocrinological Ward of Children's University Hospital and Neurosis Ward from the Psychiatric University Hospital in Lublin. The evaluation of smell and taste was tested on 13 women aged 12-34 (mean age 19.5). The control group included 31 persons aged 10-18 (mean age 14.8). The examination of smell and taste was carried out after laryngological examination aiming at excluding pathological changes in nose and throat. The examination of smell was realised with Elsberg method modified by Pruszewicz. The fragrant substances to smell were: natural coffee and mint oil. The feeling threshold (FT) and smell identification threshold (IT) were defined. The test of taste was carried out with electrogustometric method by means of self-designed electrogustometer.

The obtained results were analysed statistically with the Kolmogorov-Smirnov method.

RESULTS AND DISCUSSION

Otolaryngological test did not confirm any changes on the mucous membrane of nose and throat, which could have influenced the reaction of the tested senses. Olfactometric tests proved that FT (feeling threshold) for natural coffee ranged from 2.0 to 10.0 cm³ (mean 5.01 cm³). IT (identification threshold) for coffee ranged from 2.0 – 20.0 cm³ (mean 8 cm³). FT for mint oil was 2.0 – 10.0 cm³ (mean 3.1 cm³). IT for mint oil ranged from 2.0 – 20.0 cm³ (mean 5.5 cm³). Testing of smell in the control group indicated the following values: FT for natural coffee – from 2.0 –

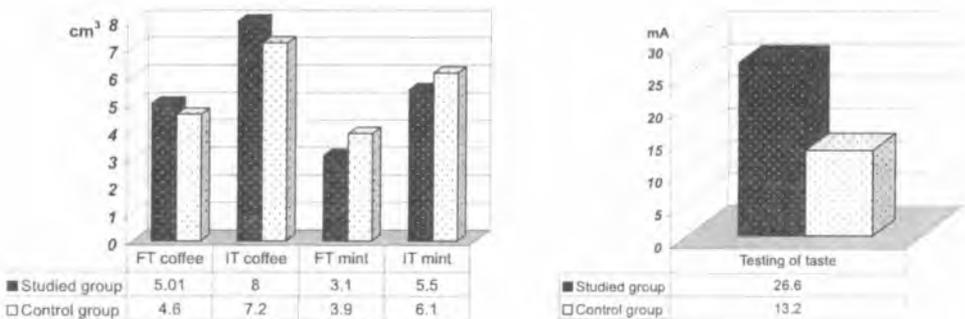


Fig. 1. Testing of smell and taste in patients with anorexia with reference to the control group

8.0 cm³ (mean 4.6 cm³), IT from 4.0 – 16.0 cm³ (mean 7.2 cm³), for mint oil: FT – from 2.0 – 8.0 cm³ (mean 3.9 cm³), IT – from 4.0 – 10.0 cm³ (mean 6.1 cm³). The results are illustrated in Figure 1. Statistical analysis of the smell did not confirm significant differences between FT and IT for natural coffee in the investigated group as compared to the control group of healthy persons ($p > 0.1$). The feeling and identification thresholds for mint oil in the group of patients were significantly lower than in the control group FT $p < 0.025$, IT $p < 0.05$. Testing of taste in the investigated group indicated that the sensitivity to taste was within the range from 8.0 – 60.0 mA (mean 26.6 mA).

In the control group testing of taste indicated its lower mean value 13.2 mA (ranging from 4.0 – 18.0 mA). Statistical analysis of the results of testing taste confirmed a significant rise in the threshold of taste feeling ($p < 0.025$).

The study presented a significant decrease in taste sensitivity with simultaneous increase in sensitivity to smell. Our study cannot explain the mechanism of defect of the sense of taste with anorexia.

The reaction of smell and taste senses is influenced by the activity of neurotransmitters of adrenaline and noradrenaline level as well as the diagnosis of cholinergic system.

REFERENCES

1. Niedzielska G. et al.: The sense of taste and smell in patients with myocardial ischaemia. *Otolaryngol. Pol.*, 24, 137, 1997.
2. Pilecki W. et al.: Brainstem potentials in children with anorexia. *Endocrin. Diabet. and Metabolic Diseases of Puberty*, 3, 2, 121, 1997.
3. Putynski L., Zarzycki J.: Characteristics of body image and self-evaluation in girls with anorexia and simple obesity. *Ped. Pol.*, 6, 415, 1994.
4. Roztoczyńska D. et al.: Clinical and psychological aspects of anorexia in children aged 12-16. *Ped. Pol.*, 6, 409, 1994.
5. Rybakowa M.: Diseases of children and adolescents occurring due to improper nutrition (anorexia, voracity). *Ped. Pol.*, 6, 401, 1994.
6. Strober E.: Family-genetic studies of eating disorders. *J. Clin. Psychiatr.*, 52, 9, 1991.

STRESZCZENIE

Poddano weryfikacji hipotezę, że zmysły trzewne biorące istotny udział w procesie przyjmowania pokarmów współuczestniczą w *anorexia nervosa*. Przeprowadzono zatem badania gustometryczne i olfaktometryczne u dzieci z jadłowstrętem psychicznym. Stwierdzono, że podwyższony próg wrażliwości smakowej może mieć współudział w chorobie.