**TRACE ELEMENTS IN NASAL POLYPS**

Erdogan Okur, MD; Ayse Gul, MD; Metin Kılıç, MD; M. Akiif Kılıç, MD; İhail Yıldırım, MD; Fatma İnanç Tolun, MD; Yalçın Ati, MD

Department of 1Otology-Neurotology, Afyon Kocatepe University
Department of Biochemistry and 3Otorhinolaryngology, Sutcu Imam University

**ABSTRACT**

Objectives: The aim of our study is to investigate the presence of the trace elements in nasal polyp tissues and to investigate the role of trace elements in nasal polyp formation. Antioxidant enzymes including superoxide dismutase (SOD) and glutathione peroxidase (GPx) and selenoproteins were measured in nasal polyp tissues.

Methods: In this study, the antibiotic, anti-inflammatory drugs, corticosteroids, and radiation therapy were not used in the patients. All the patients were included in the study after obtaining informed consent and were categorized into two groups. Statistical analysis was performed using the Student’s t-test for independent samples.

Results: The mean tissue zinc and selenium levels were respectively 2.95±0.24 μg/g and 60.33±2.40 μg/g in control group; 4.72±2.55 U/mg protein in patient group; 7.03±0.78 U/mg protein and 7.01±4.59 U/mg protein in control group. The mean tissue SOD and GPx levels were respectively 4.27 U/mg protein and 0.69±0.46 U/mg protein in patient group; 6.97±1.03 U/mg protein and 0.69±0.01 U/mg protein in control group. There was no significant difference in tissue zinc, selenium and SOD levels (P>0.05). The mean tissue GPx level was based on the mean GPx activity in patient group. The results showed that the mean tissue zinc level in the patient group was significantly lower than that in the control group (P=0.001). There was no significant difference in tissue zinc and selenium levels between the control and the patient groups. But the results showed significant differences (P<0.05) only in SOD and GPX levels. The tissue SOD and GPx levels were respectively 0.69±0.01 U/mg protein and 0.21±0.05 U/mg protein in patient group; 1.03±0.01 U/mg protein and 0.69±0.01 U/mg protein in control group. Therefore, the results showed that the mean tissue SOD and GPx levels in the patient group were significantly lower than those in the control group. But it was still controversial which one of these events is the cause while the other is the outcome.

**CONCLUSIONS**

The results of the study showed a significant correlation between the levels of trace elements and the nasal polyp formation. The results supported the theory that the antioxidative protective system of GPx itself depends heavily on the trace element levels. Therefore, the results showed that the mean tissue SOD and GPx levels in the patient group were significantly lower than those in the control group. But it was still controversial which one of these events is the cause while the other is the outcome.

**REFERENCES**


