

Profil ekspresji genów kodujących TGF- β 1 i jego receptory TGF β RI, TGF β RII i TGF β RIII w polipach nosa*

The profile of expression of transforming growth factor β 1 and TGF β RI, TGF β RII and TGF β RIII genes in nasal polyps

Beata Rostkowska-Nadolska, Małgorzata Kapral, Urszula Mazurek, Wojciech Gawron, Marek Bochnia, Krzysztof Preś

Summary

Background. Transforming growth factor β (TGF- β) plays an important role in cells proliferation and differentiation as well as in local immunological response. **Objectives.** An evaluation of genes expression profile for TGF- β 1 and its receptors TGF- β RI, TGF- β RII and TGF- β bRIII as well as their potential role in the pathogenesis of nasal polyps in eosinophilic and neutrophilic polyps and in normal nasal mucosa. **Material.** Material consisted of 22 patients. Nasal polyps were removed during standard polypectomy or FESS. In the histopathological evaluation there were 16 eosinophilic polyps and 5 neutrophilic ones. The control group consisted of 8 healthy patients from whom healthy nasal mucosa was taken during nasal septoplasty. **Methods.** The expression of the genes coding TGF- β and its receptors was evaluated with the use of RT-PCR technique. **Results.** TGF- β 1 mRNA was present in 10 eosinophilic polyps out of 16. In neutrophilic polyps group (n = 6) mRNA TGF β -1 was present in 3 samples. TGF β -1 isoform was present in all the tissues of the control group. It was significantly larger expression of TGF β -1 gene in normal mucosa in comparison with eosinophilic and neutrophilic polyps ($p < 0.05$). The expression of genes coding TGF β RI, TGF- β RII and TGF- β RIII receptors was obtained in all the polyps and healthy tissues. There was no significant differences in the transcription activity of the receptors in polyps and in the healthy tissue. **Conclusions.** Considering regulative function of TGF β 1 in inflammation processes, its low concentration in nasal polyps tissue may influence on migration and survival of inflammation cells. The high expression of genes coding TGF β RI, TGF- β RII and TGF- β RIII receptors in all the polyps and healthy tissues, show readiness to transduction of TGF β . It may suggest that, less intensive TGF β 1 expression in nasal polyps may be connected with the presence of other than first TGF β isoforms. This problem needs further investigations to set precise role of individual TGF β isoforms and other growth factors in the pathogenesis of NSP as their interactions with local cytokines. It may help to work out more effective and specific therapeutic methods in nasal polyps therapy.