



AGE-RELATED MORPHOLOGICAL CHANGES AND CLINICAL DYNAMICS OF POST-TRAUMATIC NASAL SEPTUM DEVIATION- ASSOCIATED NASAL POLYPOSIS

Yuldashev Kahramonjon Shukurjon ugli

Fergana Public Health Medical Institute., assistant.

Mahkamov Nosirjon Juraevich

Andijan State Medical Institute, DSc, Professor

<https://doi.org/10.5281/zenodo.17008015>

Introduction

Nasal polyposis (NP) is one of the most common manifestations of chronic rhinosinusitis, characterized by persistent inflammation and tissue remodeling within the sinonasal mucosa. Post-traumatic nasal septum deviation and related structural damage often accelerate the development of nasal polyposis through long-standing inflammatory processes. Age-related morphological variations of the nasal mucosa are of particular interest, as they may influence both histopathological features and the clinical course of the disease. Understanding these differences is essential for optimizing age-specific therapeutic strategies.

Objective

To analyze age-related morphological changes in post-traumatic nasal polyposis and evaluate their association with the clinical dynamics of the disease.

Materials and Methods

- A total of 42 patients with post-traumatic nasal polyposis were studied.
- Patients were divided into two age groups:
 - a) Group I (18–35 years) – 21 patients
 - b) Group II (36–60 years) – 21 patients
- Polyp tissue samples were examined using standard histological staining and morphometric analysis.
- The following parameters were evaluated: epithelial integrity, inflammatory cell infiltration, granulation tissue formation, fibrosis, and microvascular alterations.

Results

1. Younger patients (18–35 years):

- Marked epithelial hyperplasia and focal degeneration were frequently observed.
- Pronounced granulation tissue formation with enhanced vascularization was characteristic.

- Inflammatory infiltration was dominated by eosinophils, indicating a strong allergic-inflammatory component.

- Clinically, these patients demonstrated more frequent recurrences and exacerbations.

2.Older patients (36–60 years):

- Fibrosis and hyalinization of the submucosal layer were predominant.

- Microvascular changes included venous stasis and vascular wall sclerosis.

- Inflammatory infiltration was mainly lymphocytic in nature, suggesting a more chronic immune response.

- Clinically, symptoms persisted but demonstrated a more stable, chronic course compared to younger patients.

Conclusion

Age-related differences play a significant role in the morphological features and clinical course of post-traumatic nasal polyposis.

- Younger patients are characterized by active inflammatory and proliferative processes with a tendency toward recurrence.

- Older patients show chronic fibrotic remodeling with less pronounced recurrence but persistent symptoms.

These findings suggest that age-related histopathological assessment can provide valuable insights for predicting disease dynamics and tailoring individualized treatment strategies in patients with post-traumatic nasal polyposis.

References:

1. Fokkens WJ, Lund VJ, Hopkins C, et al. European Position Paper on Rhinosinusitis and Nasal Polyposis 2020. *Rhinology*. 2020;58(S29):1–464.
2. Schleimer RP. Immunopathogenesis of chronic rhinosinusitis and nasal polyposis. *Annu Rev Pathol*. 2017;12:331–357.
3. Van Bruaene N, Perez-Novo CA, Basinski TM, et al. T-cell regulation in chronic paranasal sinus disease. *J Allergy Clin Immunol*. 2008;121(6):1435–1441.
4. Bachert C, Zhang N, Holtappels G, De Lobel L, van Cauwenberge P. Nasal polyposis: Molecular and cellular mechanisms. *Allergy*. 2007;62(4):331–341.
5. Soyka MB, Wawrzyniak P, Eiwegger T, et al. Defective epithelial barrier in chronic rhinosinusitis. *J Allergy Clin Immunol*. 2012;130(5):1087–1096.