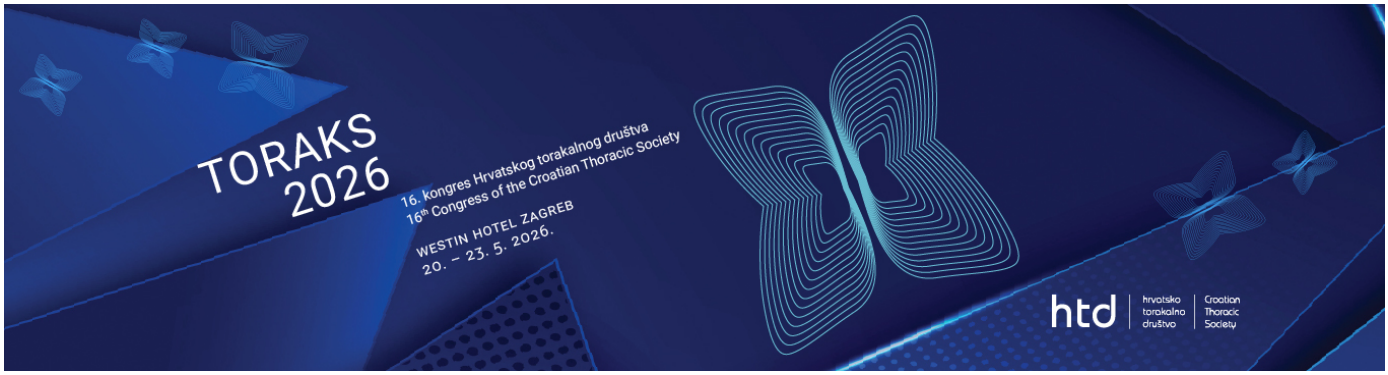


REGRESSION OF MUCOID IMPACTIONS IN SEVERE EOSINOPHILIC ASTHMA FOLLOWING BENRALIZUMAB THERAPY: A CASE REPORT

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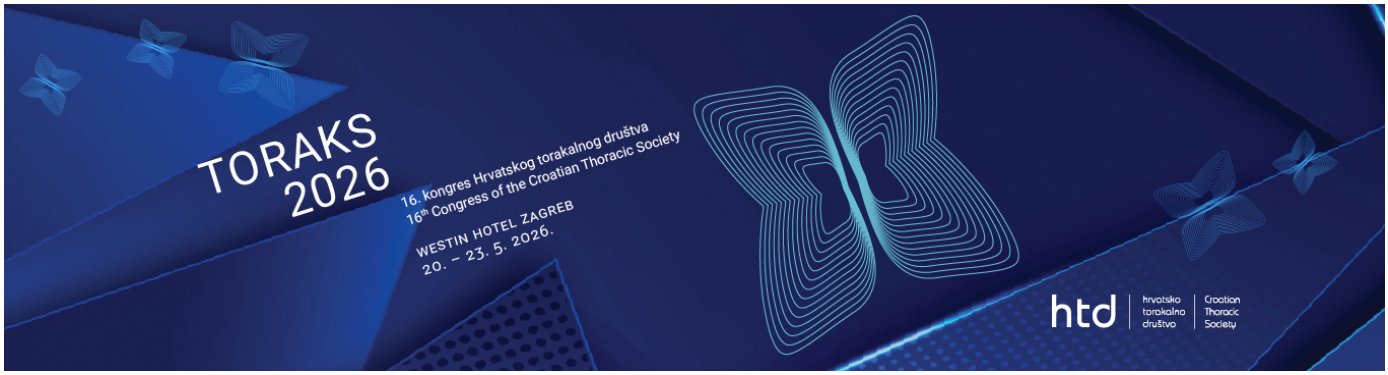
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Background:

Introduction:

Mucus hypersecretion and the formation of mucoid impactions play a significant role in the pathophysiology of severe asthma. Their development is largely driven by type 2 inflammation, particularly elevated levels of IL-5 and IL-13, and eosinophilic infiltration. Mucoid impactions contribute to airflow obstruction and poor symptom control. Importantly, they may show regression with appropriate targeted therapy. We present a case of severe eosinophilic asthma successfully treated with benralizumab, a monoclonal antibody targeting the IL-5 receptor.



Conclusion:

Conclusion:

This case highlights that targeted biological therapy with benralizumab can lead not only to significant clinical improvement in patients with severe eosinophilic asthma but also to near-complete resolution of mucoid impactions.

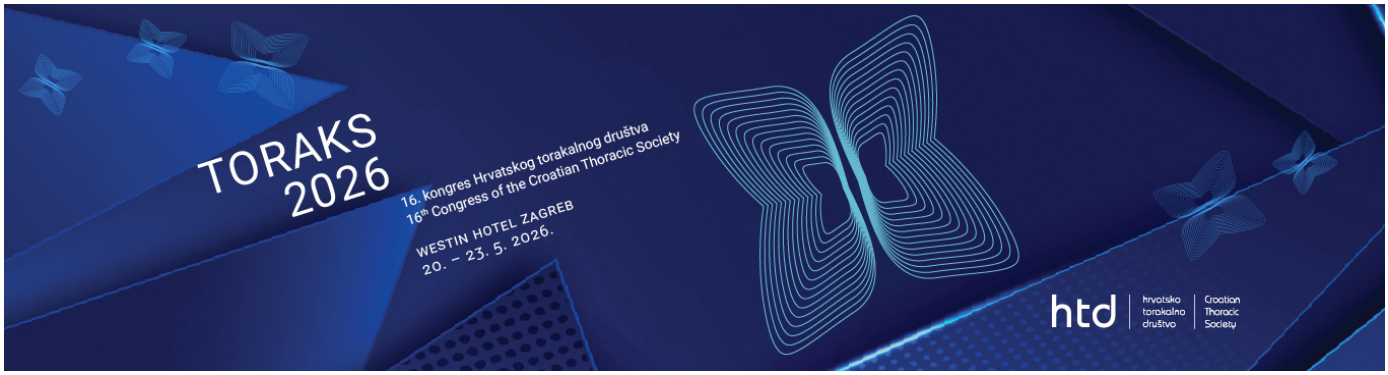
Case:

Case presentation:

A 67-year-old woman was evaluated for poorly controlled asthma. She had been diagnosed at the age of 41 with eosinophilic asthma. She presented with productive cough and dyspnea. Spirometry revealed airflow limitation (FEV_1 63% predicted, FEV_1/FVC 0.66). Fractional exhaled nitric oxide was markedly elevated at 87 ppb, and the blood eosinophil count was 820/µL.

Despite treatment with high-dose inhaled corticosteroids, a long-acting beta-agonist, a long-acting muscarinic antagonist, and maintenance oral corticosteroids, her asthma remained uncontrolled (ACT score 9). Chest CT revealed bronchiectasis with extensive mucoid impactions, predominantly in the lower lobes.

Given the progressive clinical and radiological deterioration, treatment with benralizumab was initiated. After 10 treatment cycles, follow-up imaging demonstrated near-complete resolution



of mucoid impactions. This was accompanied by marked clinical improvement, with normalization of the ACT score (25) and improvement in lung function parameters (FEV_1 92% predicted, FEV_1/FVC 0.72).