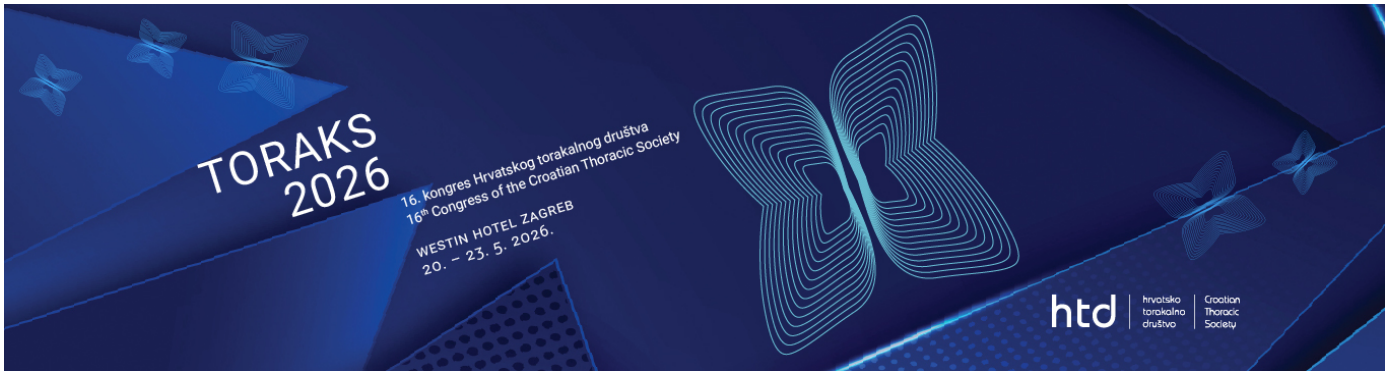


MULTIDISCIPLINARY COLLABORATIVE STRATEGY FOR CENTRAL AIRWAY OBSTRUCTION MANAGEMENT IN A PATIENT WITH NEUROENDOCRINE CARCINOMA OF THE RIGHT MAIN BRONCHUS AND OSTEOLYSIS OF CERVICAL SPINE : A CASE REPORT

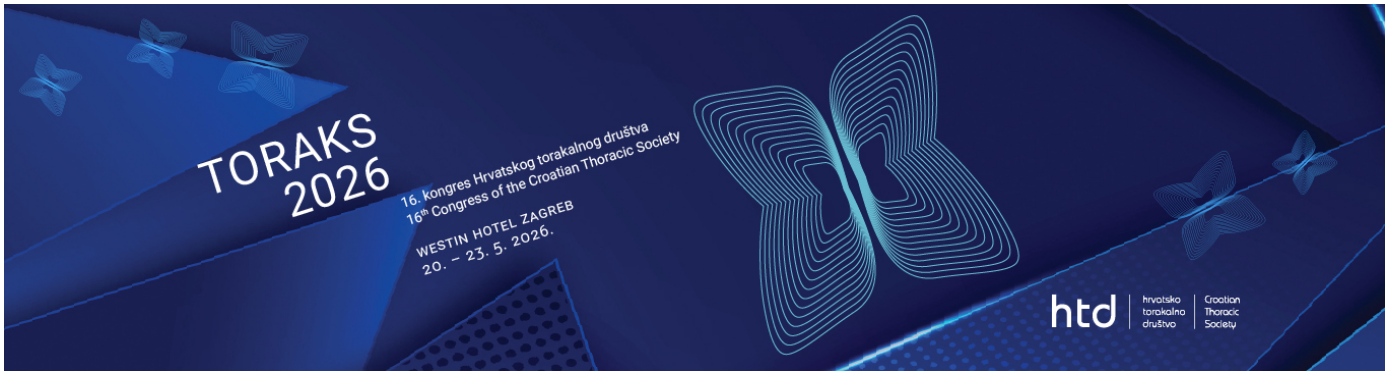
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Background:

Centrally located tumors, particularly those arising from the main or lobar bronchi, commonly present with symptoms such as cough, hemoptysis, dyspnea and may progress to malignant central airway obstruction (MCAO), development of atelectasis and respiratory failure. Such cases represent life-threatening complications that need an urgent bronchoscopic intervention, with rigid bronchoscopy considered the preferred approach. However, in selected cases, anatomical or technical limitations may render rigid bronchoscopy unfeasible. We report a case of a patient with neuroendocrine carcinoma causing complete obstruction of the right



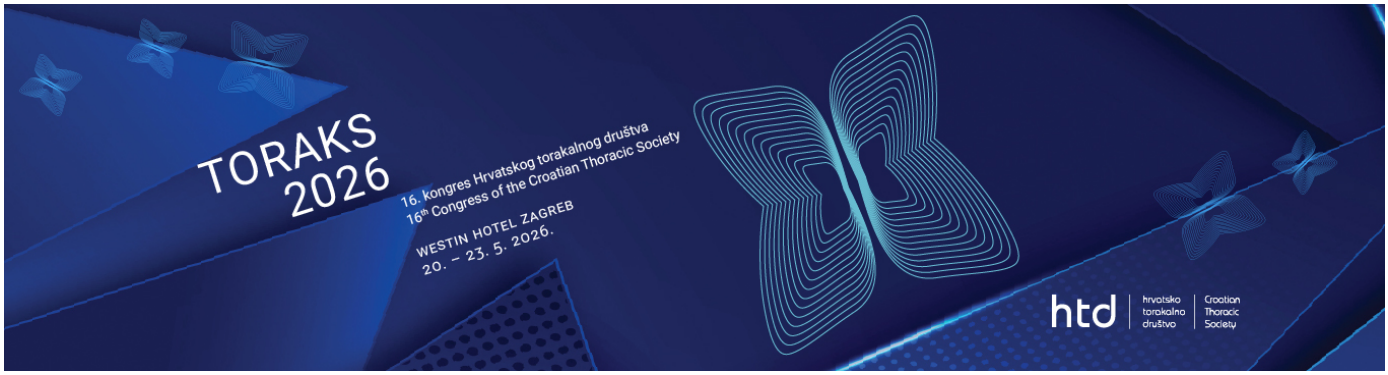
main bronchus, in whom anatomical constraints required a novel airway access strategy for successful recanalization.

Conclusion:

This case highlights the critical importance of multidisciplinary collaboration in managing MCAO complicated by anatomical limitations. Therapeutic interventional bronchoscopic recanalization serves as a vital bridge to systemic treatment, providing both symptom relief and potential survival benefit.

Case:

A 75-years old male patient with a history of COPD, arterial hypertension, and diabetes mellitus presented with a three-week history of progressive dyspnea, productive cough and hemoptysis. Chest CT revealed a 35×40 mm mass in the right hilus compressing the right main bronchus and resulting in complete atelectasis of the right lung. Extensive mediastinal lymphadenopathy was also noted. On examination, SpO2 was 85% on 6 L/min supplemental oxygen. Flexible bronchoscopy confirmed a necrotic, friable tumor mass completely obstructing the right bronchial tree, and biopsies were obtained. Brain CT excluded intracranial metastasis but identified a 7 mm osteolytic lesion in the posterior arch of the atlas. Histopathological analysis confirmed neuroendocrine carcinoma. Rigid bronchoscopy for recanalization was indicated; however, the presence of atlas osteolysis posed a high risk of spinal cord injury during the neck hyperextension required for intubation with rigid bronchoscope. Following multidisciplinary consultation — including pulmonology, neurosurgery, anesthesiology and otorhinolaryngology— a provisional tracheostomy was performed as an alternative access route for the rigid bronchoscope that avoided the risk of



the neck movements and potential spinal cord injury. Combined bronchoscopic recanalization was performed under general anesthesia: the tumor was resected using electrocautery snare, residual tissue was extracted with cryoprobe, and the tumor basis was photocoagulated using laser therapy. Successful recanalization of the right main bronchus and the middle and lower lobe bronchi was achieved, while the upper lobe bronchus remained obstructed. After the procedure, clinical and radiological improvement was observed enabling initiation of oncologic therapy.