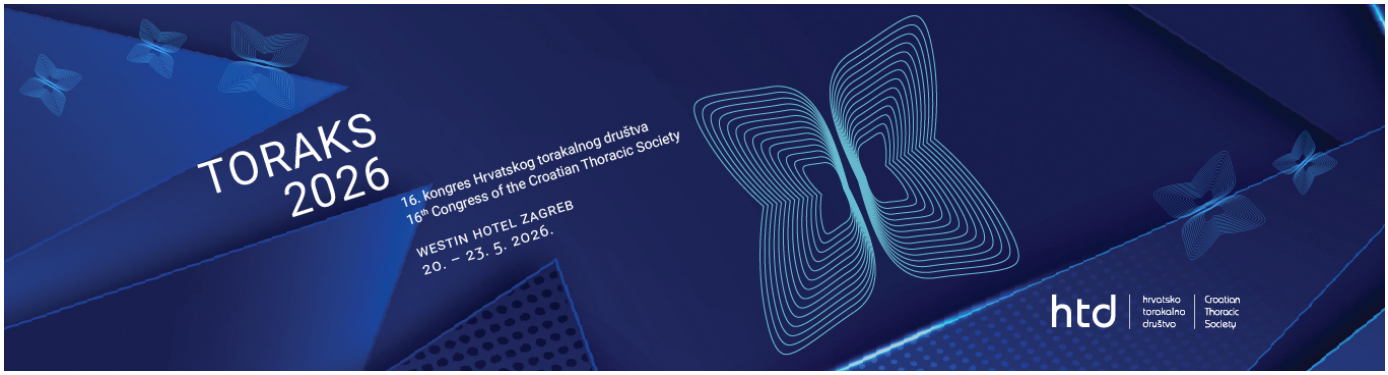


MEDICATION-RELATED OSTEONECROSIS OF THE JAW – CASE REPORT

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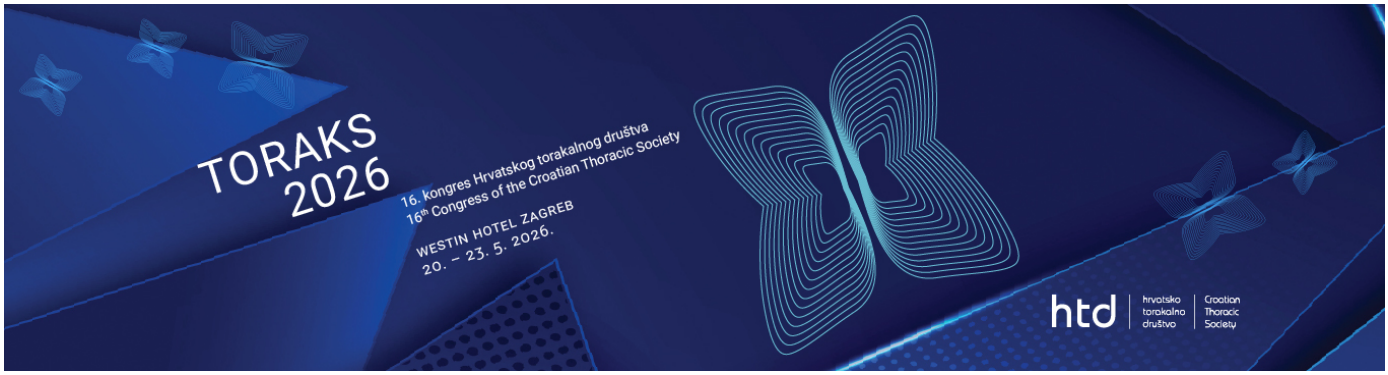
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Background:

Medication-related osteonecrosis of the jaw is a rare but serious complication in patients treated with antiresorptive therapy (alone or combined with immunomodulators) or antiangiogenic drugs, without prior radiation to the maxillofacial region. It most commonly occurs in patients receiving bisphosphonates or denosumab, widely used in advanced



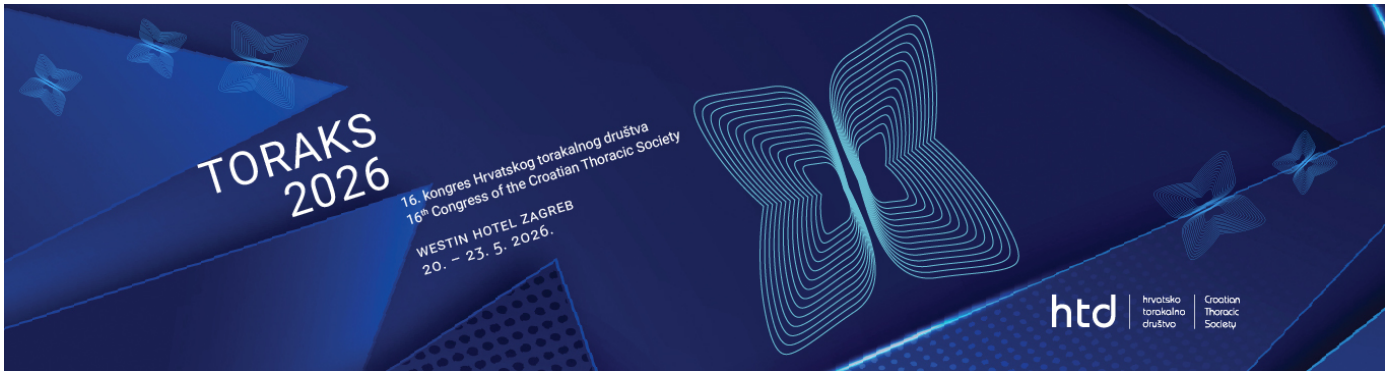
malignancies for the management of bone metastases, prevention of skeletal-related events and treatment of malignant hypercalcemia. It is defined by necrosis of the jawbone persisting for at least 8 weeks without signs of healing, clinically presenting with chronic jaw pain, infection, difficulty in swallowing, speaking and chewing, and jaw defects.

Conclusion:

Medication-related osteonecrosis of the jaw represents a significant complication in oncology patients, particularly when antiresorptive therapy is combined with immunosuppressive agents such as corticosteroids or chemotherapy. Management includes conservative measures aimed at improving quality of life or surgical intervention involving removal of necrotic bone, which can reduce pain, control infection and enhance quality of life. Early recognition, timely surgical indication and a multidisciplinary approach are essential for successful management.

Case:

We report a case of a 58-year-old male treated since 2021 for stage IV metastatic adenocarcinoma of the right lung with negative predictive biomarkers. First-line treatment included four cycles of pemetrexed/cisplatin chemotherapy followed by maintenance therapy with pemetrexed until November 2021. At that time MSCT confirmed disease progression, so the second-line immunotherapy with atezolizumab combined with zoledronate was initiated. In May 2023 due to the progression discovered on another MSCT, SABRT was performed for lesions in the left upper lobe and the middle lobe of the right lung. In May 2024, the patient developed pain in the right lower jaw; dental examination led to tooth extraction and dual antibiotic therapy. As symptoms persisted, he was referred to oral surgeon. Skeletal



scintigraphy with Tc-99m MDP and SPECT/CT of the head demonstrated pathological bone remodeling in the mandible and left maxilla, consistent with MRONJ (medication-related osteonecrosis of the jaw). Consequently, in May 2025, segmental mandibular resection with reconstruction using a free osteocutaneous fibular flap was performed. The patient recovered well and continues atezolizumab therapy with stable disease on imaging.