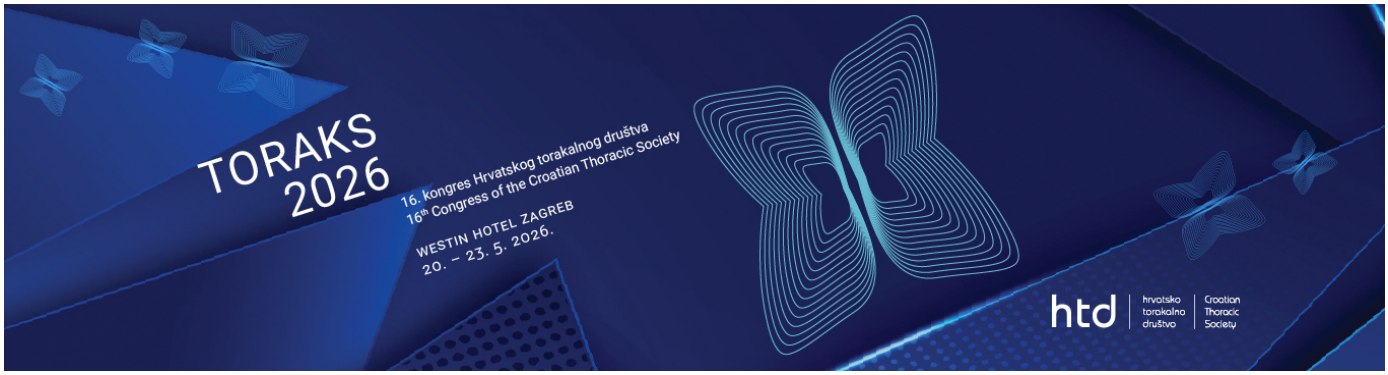


ACUTE KIDNEY INJURY AND SARCOIDOSIS – WHAT DO THEY HAVE IN COMMON?

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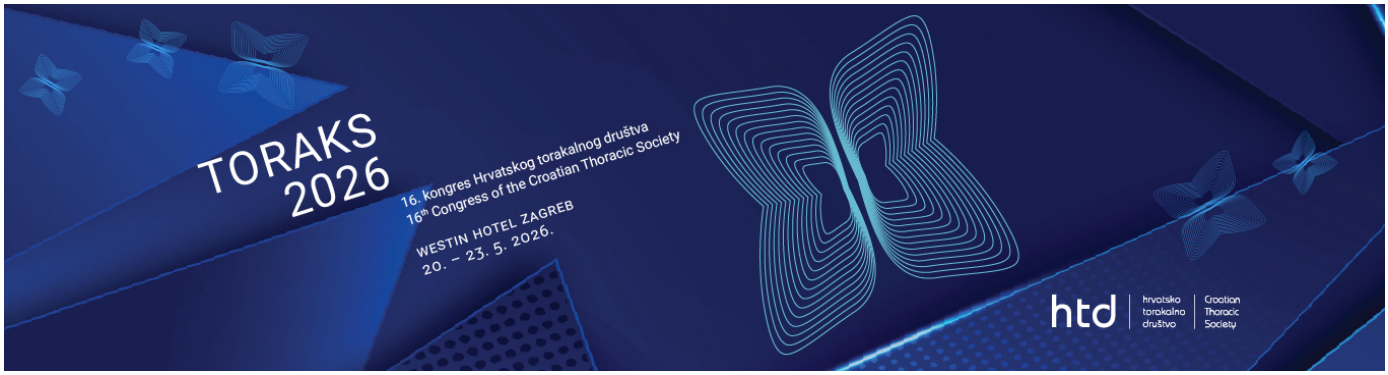
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Objective:

INTRODUCTION: Sarcoidosis is a multisystem inflammatory disorder characterised by the formation of noncaseating granulomas, most commonly affecting the lungs and lymph nodes. Hypercalcemia, caused by a dysregulated calcium metabolism due to increased production of 1,25-dihydroxyvitamin D by activated macrophages within the granulomas, has been reported in 5-10% of sarcoidosis patients.

CASE REPORT: A 27-year-old male presented to the Emergency department with acute kidney injury, weight loss and a persistent cough lasting five months. Initial laboratory testing revealed elevated serum creatinine (191 µmol/L), marked hypercalcemia (3.43 mmol/L), elevated angiotensin-converting enzyme (ACE) levels (180 U/L), and 24-hour urine protein of 0.32g. Beta-2 microglobulin levels, serum electrophoresis and immunoelectrophoresis were within normal limits. Multi-slice computed



tomography (MSCT) detected a pronounced bilateral reticulonodular interstitial pattern in the perihilar regions, upper lobes and the superior segment of the right lower lobe, mediastinal and abdominal lymphadenopathy and multiple avascular nodular spleen lesions. Histopathological analysis of lymph nodes extirpated from the posterior cervical triangle was consistent with granulomatous inflammation without necrosis. Based on laboratory, radiology and histopathology findings, the diagnosis of sarcoidosis was established. Hypercalcemia was attributed to uncontrolled production of 1,25-dihydroxyvitamin D within the granulomatous lesions. Treatment with oral prednisone at a dose of 40mg daily was initiated. At one-month follow-up, the patient was asymptomatic, normocalcemic and with no visible parenchymal infiltrates on X-ray.

CONCLUSION: This case highlights sarcoidosis as an important and potentially reversible cause of hypercalcemia and subsequent acute kidney injury in young patients. Awareness of this atypical presentation is crucial, as early diagnosis and prompt treatment can result in rapid clinical and biochemical improvement.

KEY WORDS: Acute Kidney Injury; Granuloma; Hypercalcemia; Sarcoidosis