

DRESS - For Gout's Sake!

Introduction

Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) is a life-threatening constellation of symptoms consisting of a rash, fever, lymphadenopathy, leukocyte abnormalities (eosinophilia/abnormal lymphocyte) and organ failure (usually liver and renal involvement). It has most commonly been associated with the anticonvulsants such as carbamazepine but at least 50 drugs can be associated with this syndrome. Here, we present a case of allopurinol-induced DRESS syndrome.

Case Description

A 65 year-old African-American male with type II diabetes mellitus, gout, hypertension and hyperlipidemia presented with an eight day history of lower abdominal pain and nausea, which was initially treated with ciprofloxacin by his primary care physician for a suspected urinary tract infection. However, his symptoms failed to improve and two days later developed an erythematous pruritic maculopapular rash over his face, arms, chest and back, with fever up to 103°F and diarrhea. His home medications included allopurinol which had been started four weeks previously, acetaminophen/ibuprofen (which he had only been taking since fever onset), lisinopril, atenolol, chlorthalidone, amlodipine and metformin. On assessment at his local hospital four days after the onset of abdominal pain, he was found to be in acute renal and liver failure, with serum creatinine of 5.6mg/dL, AST 1242U/L, ALT 1810U/L, total bilirubin 6.4mg/dL and leukocytosis of 20,000 μ L with 20% eosinophilia. An ultrasound of the abdomen revealed thickened gall bladder wall with pericholecystic fluid, which precipitated treatment with intravenous piperacillin-tazobactam and levofloxacin for suspected ascending cholangitis. N-acetyl cysteine was also started for possible acetaminophen toxicity. However, his liver function continued to worsen and peaked at AST 1438U/L, ALT 2190U/L and total bilirubin 27.3mg/dL (direct 15.9). A skin biopsy revealed superficial perivascular dermatitis consistent with a drug reaction and autoimmune, bacterial, fungal and viral infectious work-up was notable only for elevated HHV-6 DNA of 67,402 copies/ml. Given high suspicion for allopurinol-induced DRESS syndrome, he was treated with intravenous methylprednisone (1g/day) with resultant improvement in both renal and liver function. He was discharged home seven days later in a stable condition on oral prednisone.

Discussion

DRESS is a life-threatening disorder with mortality rate of up to 10%. Allopurinol remains the second most commonly associated drug, with DRESS reportedly occurring in 1 of 260 patients treated with allopurinol and also has a higher death rate than any other drugs. Prompt diagnosis of DRESS is paramount as management involves immediate cessation of the offending agent and intravenous steroids. A scoring system known as the RegiSCAR's score has therefore been devised to aid in clinical diagnosis and essentially encompasses the presence of fever, lymphadenopathy, eosinophilia and liver/renal dysfunction, without concomitant infection or autoimmune disorder. The pathogenesis of DRESS remains unclear; however a recent literature review has proposed HHV-6 reactivation as a diagnostic marker, elevating this syndrome to a more severe and rare form referred to as Drug-Induced Hypersensitive Syndrome. This case therefore highlights the importance of thorough history and physical examination in patients presenting with multi-organ failure and the importance of recognizing allopurinol as a common causative agent in DRESS.