A Little Red DRESS: A Case of an Allopurinol-induced Rash

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Introduction

- The differential diagnosis for patients presenting with fever and a rash is vast, but potentially life-threatening etiologies must be considered. Drug reaction with eosinophilia and systemic symptoms (DRESS syndrome) is a rare condition characterized by fever, skin eruption, eosinophilia, lymphadenopathy, and organ involvement.

Case

- Mr. C is a 69-year-old male with no significant past medical history, who presented to the emergency department with a 10-day history of pruritic rash. It began on his upper extremities but quickly spread to his trunk, face, scalp, and lower extremities. He had no recent travel, sick contacts, or chemical exposures. He was prescribed steroids, an H2-blocker, and an antibiotic without improvement. He then developed fevers, weakness, fatigue, myalgias, and confusion, prompting evaluation in the emergency department.

- Upon admission to the hospital, Mr. C was febrile, tachycardic, and hypotensive. His chest X-ray was normal. He had a history of diabetes mellitus, hypertension, andCAD. Laboratory studies showed a normal total white blood cell count and platelet count but an elevated serum creatinine, liver function tests, viral hepatitis serologies, urine analysis, and ALP. His bilirubin was elevated but normal with a mild coagulopathy and a normal alkaline phosphatase. LDH and lactate were elevated.

- Although not on his medication list, further questioning elicited a history of taking allopurinol before hospitalization. He was prescribed allopurinol by his primary care provider for hyperuricemia 6 weeks prior. He had only taken it for a month and had discontinued it before the rash began. Because of this, DRESS syndrome was suspected, and Dermatology was consulted. A skin biopsy was performed and demonstrated spongiosis, focal vacuolar interface, and eosinophilic with numerous extravasated red blood cells. The histopathologic features were most suggestive of a drug reaction, including DRESS. Features were not suggestive of Stevens Johnson Syndrome or Toxic Epidermal Necrosis. Autoimmune and infectious etiologies were excluded with multiple negative serologies.

Figure 1

Brownish erythematous confluent rash noted on the chest.

Figure 2

Brownish erythematous confluent rash noted on the legs.

Discussion

- DRESS is a rare drug-induced hypersensitivity reaction that can be life-threatening. It is unique in that there is a longer latency between drug exposure and onset of symptoms, as compared to most drug eruptions. The drug eruption usually begins two to six weeks following the initiation of the offending medication. Patients often present initially with fever, malaise, and lymphadenopathy in addition to skin eruption. The dermatologic abnormalities usually begin as a morbilliform eruption involving the face, upper trunk, and extremities, which quickly progresses to a confluent erythema. Involvement of at least one internal organ occurs in 90% of patients with DRESS. Liver involvement is the most common, occurring in 60-80% of patients, followed by kidney involvement in 10-30%. However, many other organs can be involved, including lungs, heart, gastrointestinal tract, pancreas, thyroid, brain, muscle, peripheral nerves, and eyes.

- Initial evaluation of a patient with suspected DRESS should focus on confirming the diagnosis, ruling out other conditions that mimic DRESS, and evaluating the severity of organ involvement. Laboratory studies should include a complete blood count with peripheral smear, liver function tests, viral hepatitis serologies, serum creatinine, urinalysis, skin biopsy, and human herpesvirus serology.

- Allopurinol and antiepileptic agents are most commonly associated with DRESS, but sulfonamides and antibiotics, such as dapsone and vancomycin, may also be implicated. There is also a strong association with reactivation of human herpesvirus 6 in cases of DRESS.


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- Mr. C was admitted to intravenous methylprednisolone while in the hospital and his rash and associated symptoms improved. He was discharged on a prednisone taper with close dermatology follow-up.

Conclusion

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- Mr. C was initiated on intravenous methylprednisolone while in the hospital and his rash and associated symptoms improved. He was discharged on a prednisone taper with close dermatology follow-up.

- The diagnosis of DRESS usually begins with a high clinical suspicion, given the unique presentation of the syndrome. The combination of exposure to a high-risk medication, coupled with fever, diffuse skin eruption, eosinophilia, and internal organ involvement should raise concern for DRESS.

References


