Clinical vignette: Vancomycin-induced DRESS syndrome

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Vancomycin-Induced DRESS Syndrome
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ABSTRACT

- DRESS (Drug Reaction with Eosinophilia and Systemic Symptoms) is a systemic reaction to a medication leading to hematologic abnormalities and inflammation of various internal organs that occurs once in every 1,000 to 10,000 drug exposures, and is associated with a 10 percent mortality.1,2
- This reaction has been classically associated with sulfonamides and anti-convulsants, though a growing number of case reports suggest an expanding list of medications as potential causes of the disease.3-8
- The non-specific appearance of the rash, as well as an unpredictable pattern of organ involvement, make diagnosis and management of this condition difficult.
- This poster serves to describe a case of DRESS associated with vancomycin.

Case Presentation

A 52-year-old male was admitted to the hospital after sustaining multiple injuries in a fight and was started on vancomycin for a subsequent MRSA bacteremia. On antibiotic day two, the patient developed a diffuse maculopapular rash which started on his extremities and progressed inward to involve his trunk. The maculopapular rash developed into multiple thickened bullae on the upper extremities, which was followed by evidence of systemic organ involvement.

Temp: 39.9, Pulse: 113, Blood Pressure: 97/51, Respiration: 18, O2: 97%

Labs:
- WBC: 38.0 (13% eosinophils, 20% variant lymphocytes)
- Hgb: 12.0
- Hct: 36
- ALP: 224
- BUN: 5
- Total bilirubin: 0.5
- Creatinine: 0.7
- Lactate: 4.9
- AST: 131
- ALT: 130
- Bicarb: 27
- BUN: 5
- Potassium: 3.5
- Sodium: 145
- Albumin: 2.1
- Glucose: 104

The management of DRESS syndrome is poorly studied and often differs significantly from country to country. The optimal therapy is unknown, however differences in management strategies necessitate prompt and accurate diagnosis.

References

Discussion

Vancomycin-induced DRESS Syndrome

Three of the following must be present:3
- Hospitalization
- Reactions suspected to be drug-related
- Involvement of at least one internal organ
- Enlarged lymph nodes in at least two sites
- Abnormalities in blood count
- Fever above 38 C

DRESS is defined as an acute drug reaction to an offending agent resulting in a diffuse rash, fever, lymphadenopathy, hematologic abnormalities and evidence of systemic organ involvement.

The pathophysiology of DRESS remains poorly understood, though some have hypothesized that it is related to hypersensitivity or reactivation or latent viral infections, particularly Human Herpesvirus 6 and Epstein-Barr Virus.10-15

Irrespective of the etiology, the resulting end-organ inflammation leads to the potential morbidity and mortality associated with this condition. The organs most commonly involved include the liver (80%), the kidneys (40%) and the lungs (40%).2

This condition may be difficult to distinguish from other causes of drug-related dermatopathology, particularly the Stevens-Johnson Syndrome/Toxic Epidermal Necrolysis spectrum, however differences in management strategies necessitate prompt and accurate diagnosis.

While hematologic abnormalities and pathology are similar (with both frequently showing disproportionately high numbers of atypical lymphocytes and eosinophils), mucosal involvement and skin detachment are not typically described in DRESS syndrome.1

The management of DRESS syndrome is poorly studied and currently consists mainly of prompt withdrawal of the offending agent and supportive care. Stains have been suggested in cases of life-threatening organ dysfunction, though evidence to support or contradict this recommendation is lacking.14

Photo courtesy of Erica Walsh MD

(40%)1