

# Unveiling the Enigma: Vancomycin-Induced Drug Reaction with Eosinophilia and Systemic Symptoms

Rayan Elhag MD, Hassan Alkhatatneh MD, Joseph Fleischer MD, Natasha Rastogi MD

Englewood Hospital and Medical Center

## Introduction

- Drug reaction with eosinophilia and systemic symptoms (DRESS) is an idiosyncratic drug reaction characterized by widespread rash, visceral organ involvement, eosinophilia and atypical lymphocytosis.
- It is a rare syndrome with an occurrence of 0.9 to 2 per 100,000 patients per year and a mortality rate of ~10%.

## Case Presentation

- A 54-year-old woman with a history of knee replacement surgery complicated by joint infection requiring prosthesis removal, Vancomycin and Cefepime one month prior. She presented with an acute generalized rash one week after initiation of antibiotics. Despite stopping Cefepime and taking antihistamines, the rash progressed to cover her entire body and was accompanied by fever, vomiting and diarrhea.
- On exam, she was febrile, tachycardic, and had a generalized morbilliform rash (Figure 1). Labs revealed a normal leukocyte count at 8.4 K/uL with eosinophilia of 13%, elevated ferritin of 358.3 and transaminitis with ALT 164 and AST 109. Vancomycin was stopped, and she was started on Daptomycin along with Methylprednisolone. Her condition improved within 2 days, and was discharged home on Prednisone 20 mg, Famotidine, and Cetirizine.
- Patient was readmitted the following day with persistent fever and a generalized erythematous rash covering most of her chest, back and upper and lower extremities, accompanied by a burning sensation with new facial and periorbital swelling. Repeat labs revealed a new leukocytosis of 25 K/ul. She was restarted on Methylprednisolone. A skin biopsy showed superficial and deep perivascular and interstitial dermatitis with eosinophils, and large lymphocytes compatible with DRESS syndrome. Her symptoms improved with the resolution of the rash, and she was discharged on Prednisone 70 mg daily.

## Discussion

- Most causes of DRESS syndrome include anticonvulsants and Allopurinol. Here we describe a case that has been caused by an uncommon trigger, Vancomycin.
- The rapid onset of symptoms within 1 week of the triggering event was also unusual given the typical latency phase of 2-8 weeks for DRESS syndrome. While in the past clinicians may not consider the diagnosis of DRESS syndrome if the onset of symptoms was less than 15 days after drug exposure, recent studies reveal the timing of onset is dependent on the medication involved.
- After the initial improvement in symptoms, our patient relapsed with worsening rash and new leukocytosis. This was attributed to rapid tapering of corticosteroids, indicating that gradual tapering over 6 to 8 weeks is essential for complete resolution.

Figure 1: Morbilliform rash



## Conclusion

- **Vancomycin must be recognized as a cause of rapid-onset DRESS syndrome.**
- **Early diagnosis is essential as timely discontinuation of antibiotics, and the initiation of corticosteroids improves the prognosis and decreases mortality rates.**