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Clinical Case

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DRESS Syndrome During Treatment of Infection with Non-Tuberculous Mycobacteria

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Abstract

This case report discusses a diagnosis of a Drug Rush with Eosinophilia and Systemic Symptoms (DRESS) as a rare severe hypersensitivity reaction in a 75-year-old female patient, who developed rush, fever, elevated CRP, transaminases and peripheral eosinophilia and severe respiratory insufficiency caused by extensive bipulmonary ground-glass infiltrates during treatment of infection with non-tuberculous mycobacteria.

Keywords: Drug Rush with Eosinophilia and Systemic Symptoms; DRESS; Non-tuberculous mycobacteria; Mycobacterium avium; Lymphocyte transformation test; LTT

Introduction

Drug Rush with Eosinophilia and Systemic Symptoms (DRESS) is a rare (incidence of 1:1,000 to 1:10,000 drug administrations), multifaceted and complex hypersensitivity syndrome, the effects of which can be fatal with a mortality of up to ten percent [1].

Clinical Case

A 75-year-old female patient with CT morphological bronchiectasis and consolidating infiltrate with a cavity formation in the left lower lobe (Figure 1) and with a neutrophilia of 74% in the Bronchoalveolar Lavage (BAL) was initially treated empirically with ampicillin/sulbactam and subsequently with piperacillin/tazobactam and meropenem if the CRP value was stagnant. When Mycobacterium avium was detected, therapy with rifampicin, ethambutol and clarithromycin was used. Three weeks after starting therapy, the patient developed rapid respiratory deterioration requiring

O2 high-flow therapy. Imaging showed extensive ground-glass infiltrates on both sides **(Figure 2)**. There was also fever, initially urticarial and then a maculopapular rash **(Figure 3 [1])**, elevated CRP, elevated transaminases and peripheral eosinophilia (1260/µl, corresponding to 13.4%). An acute viral, atypical or HIV infection as well as rheumatoid and collagenous genesis of the symptoms were excluded. The dermatohistological examination was inconclusive. The DRESS validation score was 3 points **(Table 1, [1-3])**, corresponding to a possible DRESS syndrome. After short-term therapy with antihistamines and systemic cortisone, a significant regression of the symptoms was achieved. The Lymphocyte Transformation Test (LTT) with clarithromycin was positive (3.5 SI; lymphoblasts 15.1% **[4]**). With all other medications mentioned above, the LTT was negative.

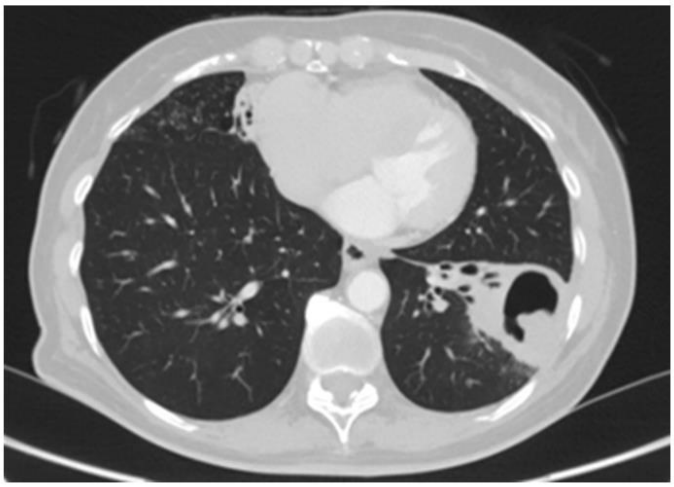

Figure 1: Bronchiectasis and consolidating infiltrate with a cavity formation in the left lower lobe.

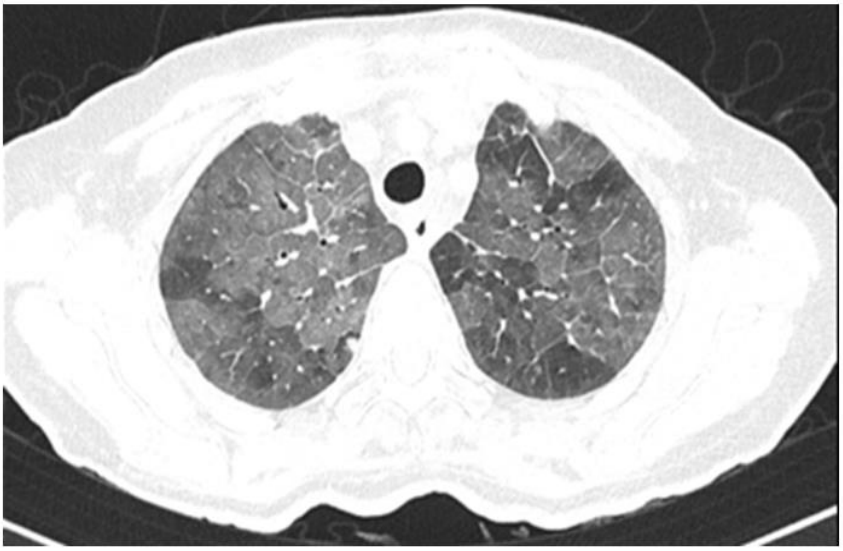

Figure 2: Extensive ground-glass infiltrates on both sides.

Figure 3: Maculopapular rash [1].

Table 1: DRESS validation score [1].

The RegiSCAR scoring system for diagnosing DRESS syndrome.

Items	Score			Comments
	−1	0	1	
Fever ≧ 38.5 °C	N/U	Y		
Enlarged lymph nodes		N/U	Y	>1 cm and ≧ 2 different areas
Eosinophilia ≧ 0.7 × 10^9/L or ≧ 10% if WBC < 4.0 × 10^9/L		N/U	Y	Score 2, when ≧ 1.5 × 10^9/L or ≧ 20% if WBC < 4.0 × 10^9/L
Atypical lymphocytosis		N/U	Y	
Skin rash				Rash suggesting DRESS: ≧ 2 symptoms: purpuric lesions (other than legs), infiltration, facial edema, psoriasiform desquamation
Extent > 50% of BSA		N/U	Y	
Rash suggesting DRESS	N	U	Y	
Skin biopsy suggesting DRESS	N	Y/U		
Organ involvement		N	Y	Score 1 for each organ involvement, maximal score: 2
Rash resolution ≧ 15 days	N/U	Y		
Excluding other causes		N/U	Y	Score 1 if 3 tests of the following tests were performed and all were negative: HAV, HBV, HCV, Mycoplasma, Chlamydia, ANA, blood culture

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ANA: anti-nuclear antibody; BSA: body surface area; HAV: hepatitis A virus; HBV: hepatitis B virus; HCV: hepatitis C virus; N: no; U: unknown; WBC: white blood cell; Y: yes.

Summary

We interpret the patient's symptoms as DRESS syndrome, most likely triggered by clarithromycin. Alternatively, if the prick test for azithromycin was

negative, this was carefully increased in dosage, well tolerated and combined with clofazimine. Despite the negative LTT with rifampicin, it was not used because the risk of this medication for DRESS was known. After a negative prick test and patch test, ethambutol was added.

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