

# BLEOMYCIN FLAGELLATE DERMATITIS

A Case Report from Hull University Teaching Hospitals

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## Acknowledgement:

Authors are thankful for the support and guidance of our colleagues at Hull University Teaching Hospitals NHS Trust (Dr Faraz Imran, Consultant Dermatologist; Dr Sujoy Khan, Consultant Immunologist and Dr Patrick Lilly, Consultant Infectious Diseases) and the Leeds Teachings Hospitals NHS Trust (Prof Dan Stark and Dr Elaine Dunwoodie) in making the diagnosis and management of this patient.

## Introduction:

Flagellate dermatitis is a rare but distinctive dermatological side effect of Bleomycin administration, an immunosuppressive drug used in the treatment of several types of cancer. Appearance of this lesion after commencement of Bleomycin is pathognomonic, and physicians should have a high index of suspicion and immediately discontinue the causative agent.

This is a report of a gentleman who developed flagellate dermatitis after initiation of Bleomycin, Etoposide and Cisplatin (BEP) regimen for testicular cancer.

## Case Presentation:

A 56 year old gentleman diagnosed with stage II testicular seminoma presented to us for the first of 3 BEP cycles, his proposed line of treatment.

2 days following initiation of therapy, he developed peri-oral tingling and herpetic vesicular eruptions. This was followed by intensely pruritic erythematous rash on his face. By day 10 post BEP initiation, the rash has spread to involve neck, chest, back, groin and feet, and he required admission in view of uncontrollable pruritus.

On examination (figure 1), we noted golden crusted lesions peri-orally, and erythematous, non-confluent, clearly delineated flagellate rashes over his face, chest and limbs. Excoriation marks were noted around the lesions, suggestive of intense pruritus. The patient did not have a history of Dermatomyositis, Still's disease, hyper eosinophilic syndrome, or shiitake mushroom intake

Opinions of both the dermatology team and immunology team were sought, and a diagnosis of orofacial herpes with impetiginisation and Bleomycin induced Flagellate dermatitis was made.

Over the next week, he was treated with Acyclovir, Flucloxacillin and Cetirizine. Topical Betamethasone 0.1% was applied on the rash. Bleomycin was stopped and it was decided that further cycles of chemotherapy would be with Etoposide and Cisplatin (ES) only.

4 days post completion of first cycle of EP not including Bleomycin, his rash was beginning to fade with treatment (see Figure 2).

At the time of writing this report, rash had completely resolved.

## Differential Diagnosis:

Dermatographia, Erythroderma and Herpes labialis were all considered as differential diagnosis for this gentleman.



Figure 1: Orofacial herpes with impetiginisation (above right), linear erythematous flagellate dermatitis scalp (above left), front of chest (below right) and left leg (below left).

Written consent obtained from the patient to share pictures for poster presentation according to the Hull University Teaching Hospitals NHS Trust Policy.



Figure 2: Resolving impetiginisation and erythema face and flagellate dermatitis scalp (above), chest (below right) and left foot (below left).

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## Discussion/Learning Points:

- Bleomycin is an antibiotic chemotherapy which results in high cure rates in advanced germ cell tumours in combination with other chemotherapy agents (BEP). Bleomycin can cause hyperkeratosis and hyperpigmentation [1] but FD is relatively rare.
- The time span between administration of the drug and onset of clinical symptoms usually varies between 1 day and 9 weeks. The rash usually subsides 3–4 months following discontinuation of the drug. [2]
- The reaction is dose-dependent and is hypothesized due to localised toxic levels of Bleomycin. It is metabolised by the Bleomycin hydrolase enzyme, which is not present in lungs or skin; hence drug toxicity manifests primarily in these two organs [3]. It usually occurs in total doses above 100 U and often higher than 200 U [4-5]. However, cases have been reported of flagellate dermatitis with doses as low as 15 units.
- There is no specific treatment but usually oral or systemic steroids and antihistamines are administered [6]. The rash disappears over weeks to months as long as bleomycin is avoided [7].

## Conclusion:

- A high index of clinical suspicion should be present for diagnosis of Flagellate dermatitis in cases of sudden onset of pruritic, erythematous linear lesions in several areas of the skin following treatment with Bleomycin. Early suspension of Bleomycin can result in improvement of symptoms.

## Footnotes:

Informed Consent: Received.

Conflict of Interest: The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

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