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CASE REPORT

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A case of hydralazine-induced bullous pemphigoid

Paul Zammit

Consultant Geriatrician, Department of Geriatrics, St. Vincent de Paul Hospital, Luqa - Malta

ABSTRACT

Introduction: Hydralazine-induced bullous pemphigoid (BP) is a rare adverse drug reaction where the medication may act to trigger an autoimmune response against proteins in the dermal-epidermal junction (DEJ). This case highlights the necessity of considering hydralazine as a potential cause of BP.

Case Description: An 89-year-old Caucasian lady developed generalized, itchy, bullous rashes approximately two weeks after her doctor initiated hydralazine for high blood pressure. BP secondary to hydralazine was suspected. A skin biopsy with direct immunofluorescence (DIF) confirmed the diagnosis, showing linear deposition of IgM and C3 along the basement membrane zone.

Conclusion: The cornerstone of management was the immediate discontinuation of hydralazine, and the patient was started on oral prednisolone. Her rashes started disappearing within days and resolved within one month, demonstrating the good prognosis often seen with prompt drug withdrawal.

Keywords: Bullous pemphigoid, Bullous rash, Hydralazine, Steroids

Case Report

An 89-year-old Caucasian lady presented with a 2-week history of a generalized itchy rash in a nursing home (Fig. 1). On inquiry, it was discovered that her general practitioner had started hydralazine 25 mg twice daily for high blood pressure prior to the rash's development. On examination, the lady had bullous rashes over her upper limbs, lower limbs and back. Bullous pemphigoid (BP) secondary to hydralazine was suspected. A biopsy of the perilesional skin with direct immunofluorescence (DIF) revealed linear deposition of IgM and C3 along the basement membrane zone with no deposition of IgG or IgA. These features were in keeping with a clinical consideration of BP rather than idiopathic. Hydralazine was stopped, and oral prednisolone was started. The patient's rash improved within a few days and resolved within one month. The prednisolone dose was then tapered gradually down. The patient remained well and symptom-free.

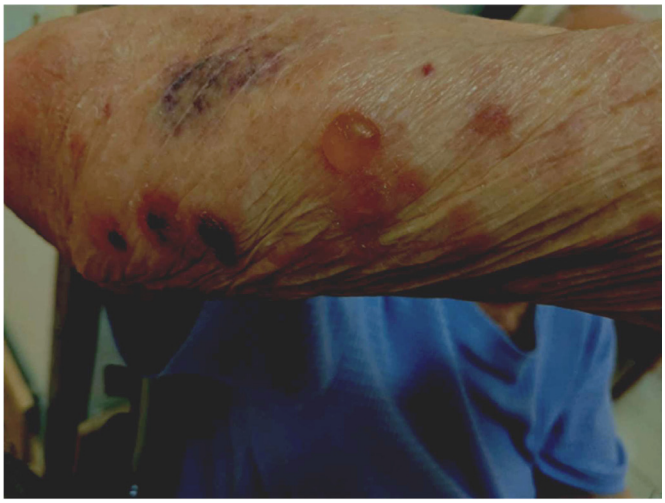

FIGURE 1 - Clinical presentation of BP. Large, tense, fluid-filled bullae are visible on an erythematous and eczematous base on the forearm.

Background

Hydralazine-induced BP is a serious adverse drug reaction, though extremely rare and has been mentioned in only 3 other cases (4). It's a form of drug-induced BP (DABP) that mimics the idiopathic (spontaneous) form of the disease. The primary characteristic of both is the formation of tense, subepidermal blisters, often accompanied by intense itching and urticarial plaques.

Pathophysiology

BP is an autoimmune blistering disorder where the body mistakenly produces autoantibodies that attack proteins in the dermal-epidermal junction (DEJ), specifically BP180 and BP230 (1). This attack leads to inflammation and the separation of the epidermis from the dermis, resulting in the characteristic bullae (blisters). While the exact mechanism for how hydralazine triggers this reaction isn't fully understood, it's thought to involve a genetic predisposition, with certain

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Corresponding author:
Paul Zammit
email: paulzammit80@gmail.com

individuals having specific human leukocyte antigen (HLA) alleles that make them susceptible (2). The drug may act as a "hapten," binding to DEJ proteins and altering their structure, thereby causing the immune system to see them as foreign and initiating the autoimmune response (3).

Clinical Presentation and Diagnosis

The clinical features of hydralazine-induced BP are generally indistinguishable from idiopathic BP. Patients, typically elderly, present with a widespread, intensely pruritic (itchy) rash that evolves into tense blisters on both inflamed and normal-appearing skin (1,4). Diagnosis requires a combination of clinical suspicion and specific lab tests:

- **Histology:** A skin biopsy from the edge of a blister will show a subepidermal blister with an inflammatory infiltrate rich in eosinophils (5).
- **Direct Immunofluorescence (DIF):** A biopsy of the perilesional skin (skin adjacent to a lesion) is the gold standard for diagnosis. It shows a characteristic linear deposition of IgG and/or C3 along the basement membrane zone (4,5).
- **Indirect Immunofluorescence (IIF) and ELISA:** These blood tests can detect circulating autoantibodies against BP180 and BP230, providing further support for the diagnosis (2).

Management and Prognosis

The cornerstone of treatment for hydralazine-induced BP is the immediate discontinuation of the offending drug (3,6). In many cases, this is sufficient to resolve the skin lesions. However, if the rash persists or for more severe cases, treatment is similar to that for idiopathic BP and may include:

- **Topical corticosteroids:** High-potency steroid creams are used for localized disease (6).
- **Systemic corticosteroids:** Oral steroids, such as prednisone, are the first-line treatment for widespread or severe disease to quickly suppress the immune response (6).
- **Immunosuppressants:** For chronic or refractory cases, or to minimize the long-term side effects of steroids, other drugs like azathioprine or dapsone may be used (5).

The prognosis is generally good, especially with prompt drug withdrawal. Some patients may have a self-limited course, while others may require prolonged therapy similar to that of classic BP (3).

Conclusion

This case highlights the fact that elderly persons can get serious side effects from seemingly safe medications. It is important to always be aware of potential side effects for any medication given.

Disclosures

The patient gave written consent for the publication of this case report. The patient also gave written consent for the photo in the case report.

Conflict of interest: The authors declare no conflict of interest.

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