

A case of Bicalutimide-induced photosensitivity reaction

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Introduction

Lichenoid drug eruptions are uncommon skin rashes associated with a medication. They share some common clinical features of idiopathic lichen planus such as itch and characteristic flat topped, erythematous or violaceous papules in a symmetrical distribution(1).

Drug induced photosensitivity can be classified into phototoxicity and photoallergy(2).

Phototoxic reaction is a dose-dependent process induced by the release of photoproducts from photoreaction of target drug agent found in skin tissue.

In photoallergic reactions, photochemical reaction of the offending drug gives rise to substrates to trigger a type IV hypersensitive (cell-mediated) reaction(3).

Lichenoid drug reaction with or without photosensitivity share some common histopathological features with lichen planus, such as hyperkeratosis, hypergranulosis and irregular acanthosis. Basal vacuolation and colloid body formation are often seen. Spongiosis and epidermal lymphocytic exocytosis are present as common features of subacute eczema. However, the presence of eosinophils, lichenoid infiltrate and isolated keratinocytic apoptosis can be used to differentiate drug-induced lichenoid reactions(4).

Patch testing can also be used for diagnosis, however, false negatives are common. Typically, a lichenoid drug reaction would demonstrate contact dermatitis type results on patch testing(5). Monochromator can also be used to identify drug-induced photosensitivity. This test must be conducted on skin that has been clinically normal for at least 2 weeks. A positive reaction, with negative 'contact' and 'irradiation' results, demonstrating strengthening response over time suggests a photoallergic mechanism of reaction(6).

Bicalutamide is an anti-androgen currently licensed in the UK as an adjuvant therapy for locally advanced, non-metastatic prostate cancer. Its common side effects include; alopecia, decreased libido, dry skin, hot flushes, pruritus and rash. Photosensitivity has been listed as a rare side effect(7). Table 1 displays the reported incidents of bicalutamide-induced photosensitivity to date.

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	Case 1	Case 2	Case 3	Case 4	Our case
Age (years)	76	77	59	71	74
Sex	M	M	M	M	M
UVB-MED (mJ/cm ³)	52	n/a	40	40	
UVA-MRD (mJ/cm ³)	>8.5	n/a	>4	6	
Time to appearance of photosensitivity	~2 months	~1 month	~2 months	34 days	4-6 weeks

Table 1: Summary of known cases of bicalutamide-induced photosensitivity to date



Figure 1: Photograph showing symmetrical eczematous eruption with predilection at sun-exposed sites over torso and upper limbs. Note this photograph was taken 4 weeks after bicalutamide had been stopped.

Figure 2: Photograph showing erythema outline across upper torso. Note this photograph was taken 4 weeks after bicalutamide had been stopped. Biopsy was taken from left side of neck which was contiguous with rash across the shoulders.

MICROSCOPY

The sections show a punch biopsy of skin with mild epidermal hyperkeratosis, acanthosis and spongiosis with exocytosis of lymphocytes. However, high and low level apoptotic keratinocytes are also seen within the epidermis and there is focal patchy basal vacuolar degeneration. In the superficial and mid dermis is a moderate, predominantly perivascular lymphohistiocytic inflammatory infiltrate. No eosinophils are seen. Nevertheless, the features would be consistent with a lichenoid drug eruption.

CONCLUSION

SKIN, PUNCH, LEFT NECK - CONSISTENT WITH LICHENOID DRUG ERUPTION.

Figure 3: Histology report of a 4mm punch biopsy taken on left neck (affected site, sun exposed) is consistent with lichenoid drug reaction.

Case Report

74 year old man started on bicalutamide for the treatment of prostate cancer. Approximately 4-6 weeks after starting bicalutamide therapy the patient developed diffuse, tender erythema spreading caudally from facial sites. The distribution is symmetrical and follows a sun exposed pattern with erythema seen across the face, shoulders, upper torso and upper limbs (see Figures 1 and 2).

Investigations

A 4mm punch biopsy was duly taken from lesional site on the left side of neck, which demonstrated mild epidermal spongiosis, acanthosis and band-like lymphocytic infiltrates in dermis on haemoxilyn and eosin staining (H&E) (see Figure 3). A histologically proven, drug associated lichenoid eruption predominantly at sun exposed site has been identified.

Treatment and Outcome

The medication was stopped following 2 months of treatment. We saw him 4 weeks after the end of therapy in a dermatology outpatient clinic and started him on a tapering dose of Prednisolone starting at 10mg OD with daily application of sunscreen and emollients.

Conclusion

Following clinical and histological analysis of our case, we believe we have diagnosed a case of photosensitivity secondary to bicalutamide. The incidence of photosensitivity from bicalutamide may be more common than originally thought.