Angioedema-like contact dermatitis caused by mesotherapy with dutasteride

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Dutasteride is a dual inhibitor of both type I and type II 5-alpha-reductases, and thus an inhibitor of the conversion of testosterone to dihydrotestosterone, a key mediator of androgenetic pattern hair loss. Even if its use is off-label, several clinical studies have demonstrated effectiveness orally and topically. Recently, the use of dutateride in mesotherapy in terms of subcutaneous injection has extended exposure to this drug (1). Although angioedema with oral dutasteride has been reported, allergy contact dermatitis (ACD) to topical or intradermal dutasteride has not been previously described.

CASE REPORT

A 45 year-old woman developed marked facial swelling and erythema 24 hours after first mesotherapy with dutasteride for androgenetic alopecia (Figure 1). She was then patch tested with the Spanish baseline series and the ingredients of the dutasteride solution, including dutasteride in alcohol in several concentrations (0.001%, 0.01% and 0.05%), ethyl alcohol and propylenglycol 20% aq. There were strong positive reactions (++) to dutasteride and propylenglycol on day 2 and 4 (Figure 2). Twenty healthy volunteers were patch tested with dutasteride 0.001%, 0.01% and 0.05%, with negative results.

DISCUSSION

We report a case of severe ACD mimicking angioedema caused by dutasteride. Although angioedema related to antiandrogen therapy has been reported, this is - to our knowledge - the first report of ACD caused by mesotherapy with dutasteride. Androgens decrease bradykinin formation and increase the degradation of bradykinin, a potent vasodilator that increases vascular permeability and can lead to the development

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of angioedema. The antiandrogenic properties of dutasteride may contribute to bradykinin accumulation (2). However, it is a non-allergic reaction and patch tests tests would therefore be negative.

Severe ACD involving the face can be misdiagnosed as angioedema (3), especially if the onset is acute and facial edema is the major finding. Facial angioedema-like contact dermatitis has also been reported secondary to plants (4), or secondary to *p*-phenylenediamine (5). Clinical suspicion is needed in order to perform patch tests and arrive at a correct diagnosis.

Mesotherapy is a cosmetic procedure whose use is increasing and secondary ACD has already been described as side effect. This is the first report of ACD caused by dutasteride. Further studies are needed to stablish the optimal patch test concentration of dutasteride.

Figures

Figure 1. Periorbital edema and slight erythema on the forehead 24 hours after first mesotherapy with dutasteride

Figure 2. Strong positive reactions (++) to dutasteride and propylenglycol on day 4

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