

Short Communication

Contact allergy to testosterone in an androgen patch: control of symptoms by pre-application of topical corticosteroid

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Case Report

A man aged 70 was diagnosed in 1999 with hypopituitarism secondary to a pituitary macroadenoma, leading to low testosterone levels and consequent lethargy. He was effectively treated with testosterone patches (Andropatch[®] 5 mg), worn for a period of 24 h, location and rotation as per manufacturer's guidelines. Several days after his treatment began, however, he developed erythema at the patch sites, often with induration and blistering, which would take up to 4 weeks to settle. After 3 months' use of the patches, he developed a generalized eczema. The patches were therefore stopped, and within 2 weeks, the eruption had cleared. He was switched to oral testosterone, but this was ineffective. He was unsuitable for intramuscular testosterone due to concurrent warfarin, so the testosterone patches were restarted.

He was patch tested to the standard series, an Andropatch[®], and a variety of sex hormone preparations (Table 1). He showed positive reactions to Andropatch, Sandrena (oestradiol) gel and Dermestril 100 (oestradiol) patch on D2 and D4, and positive reactions to testosterone enanthate and testosterone undecanoate on D4.

Application of clobetasone butyrate 0.05% cream to

the skin 30 min before applying the Andropatch[®] prevented the development of a dermatitis reaction and, by this method, he has since been able to continue to use the testosterone patches with minimal skin reaction.

Discussion

There has only been 1 previous report of contact allergy to testosterone within a testosterone patch (2). Irritant contact dermatitis is by far the commoner reaction, but can be prevented by rotation of the patch application site (1). Allergic contact dermatitis to the adhesive (3), to hydroxypropylcellulose in the reservoir (4) and to ethanol in the reservoir (5) have rarely been described. There have only been a few reports of contact dermatitis to oestradiol itself (3, 6–8).

Our patient reacted to both testosterone and oestradiol. In vivo, oestradiol is formed by the aromatization of testosterone and the 2 compounds share similar chemical structures. Cross-reactivity between the 2, although not previously reported, is therefore not surprising. The positive reaction to progesterone on D2 was probably irritant.

Some patients who develop local reactions to testosterone patches have had less severe and less frequent reactions following pre-application of a topical corticosteroid

Table 1. Patch test results

		D2	D4
Sustanon 100*	1 ml in 4 ml eth. 90%	–	–
testosterone propionate (Virormone)	1% aq.	–	–
testosterone enanthate	1% in eth. 90%	–	+
testosterone undecanoate (Restandol)	1% in eth. 90%	–	+
hydroxyprogesterone (Proluton)	1% in eth. 90%	–	–
progesterone (Gestone)	1% aq.	+	–
Sandrena gel (oestradiol)	as is	+	+
Dermestril 100 (oestradiol) patch	as is	+	+
Andropatch [®] 5	as is	+	+

* Sustanon 100 contains testosterone propionate 20 mg/ml, testosterone phenylpropionate 40 mg/ml, and testosterone isocaproate 40 mg/ml

(9, 10). Bio-availability of testosterone is not significantly reduced by such pre-treatment (11). Despite demonstrating a contact allergy to testosterone, our patient has been able to continue using Andropatch® by pre-application to the site of clobetasone butyrate 0.05% cream.

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