

LETTER TO THE EDITOR

(AUGUST 16, 2014)

OCCUPATIONAL EXPOSURE TO PROPRANOLOL: A RARELY RECOGNIZED CAUSE OF ALLERGIC CONTACT DERMATITIS

Dear Editor,

A 48 year old male with no personal or family history of atopy presented with a 6 month history of a dry, scaling erythematous rash of the face and hands, consistent with dermatitis. For 3 years, the patient had worked in a pharmaceutical factory in which he was exposed to a variety of medicaments including propranolol, ethylcellulose, hypromellose and microcrystalline cellulose. The history was consistent with occupational dermatitis, with improvement of the symptoms seen during absence from work. To investigate possible contact allergens, he was patch tested (manufacturer: Chemotechnique Diagnostics, Vellinge, Sweden) to the hospital standard series, face series, relevant components of textile series, breakdown products of fragrance mixes 1 and 2, together with the medicaments, and the items of uniform he was exposed to at work, and a variety of his own products appropriately applied. Positive reactions were elicited by propranolol hydrochloride in 1% white soft paraffin (D4, 1+) and colophony (D4, 1+). Colophony was believed to be of old relevance, with a reported previous history of reactions to plasters.

In the past, the operator had been involved in the manufacture of coated propranolol spheroids. The job involved a multi-stage batch process including mixing propranolol powder with various excipients followed by extrusion and spheronisation. The spheroids were dried

and coated before being filled into capsules. Whilst protective clothing was mandatory, potential for skin exposure still existed, for example, by inadvertently touching the face with a gloved hand or touching a contaminated work surface with a hand without a glove. Also the possibility of airborne exposure [1] cannot be excluded. Following a move to a different department of the factory, in which propranolol was not used, the symptoms greatly improved.

Occupational allergic contact dermatitis to a variety of beta blockers had been reported previously, with 3 cases of contact allergy to propranolol reported in workers involved in the pharmaceutical industry [2–4]. In all these cases, the symptoms developed between 9–11 months after exposure to propranolol in the workplace. All the affected subjects wore protective clothing and dermatitis abated after moving to a different department at work. In 1 case, propranolol was the only contact allergen identified [2].

In the other 2 cases, additional contact allergens included: oxprenolol hydrochloride and epichlorohydrin (a substrate used in the manufacture of medicaments) [3] and hydralazine, bendrofluazide, and several components of the thiuram series [4]. The 4th case of propranolol contact allergy was reported in a pharmacy assistant [1], whose job involved crushing various medicaments. Other reported relevant contact allergies were associated with additional beta-blockers (metoprolol, bisoprolol, sotalol hydrochloride), benzodiazepines (alprazolam, lorazepam, tetrazepam) and angiotensin-converting-enzyme inhibitors (ACE inhibitors) (enalapril, lisinopril, perindopril).

Whilst contact allergy to propranolol in eye drops is recognized [5], propranolol is not widely regarded to be a significant occupational skin sensitizer. Our case occurred with a greater latency period (30 months) between exposure and development of the symptoms when compared to the previously reported cases. This unusual contact allergen should be considered in workers involved in the pharmaceutical industry and preparation of medicaments.

Key words:

Allergic contact dermatitis, Occupational contact dermatitis, Propranolol, Beta blocker

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