

The danger of wearing dreadlocks at work

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The chemical structure of reactive textile dyes contains a chromogen that gives the substance a colour, and a reactive part that can form covalent chemical bonds with certain textile fibres and give a high level of colour fastness to the dyed textile. Reactive dyes are used for dyeing cotton, silk, and wool. Sensitization is usually occupational (1). However, there are examples of contact allergy and suspected allergic contact dermatitis resulting from wearing clothes dyed with reactive dyes (2, 3). Here, we report a rare case of occupational allergic contact dermatitis caused by several reactive dyes.

Case Report

A 35-year-old male, with dreadlocks to his shoulders and no atopy, worked in the textile industry, dyeing wool. After a year, the patient started experiencing itching after work, which was relieved only by a daily 30-min shower. He developed dermatitis on exposed areas on the arms and the skin on the neck that did not clear during weekends, and dermatitis on the face, which was only transient.

At work, the patient dyed the textiles black. Several employees worked in the same room with different dyeing baths. The dyeing powder was added manually in open systems in a nearby room, and then taken back to the dyeing room in large plastic containers and added to the

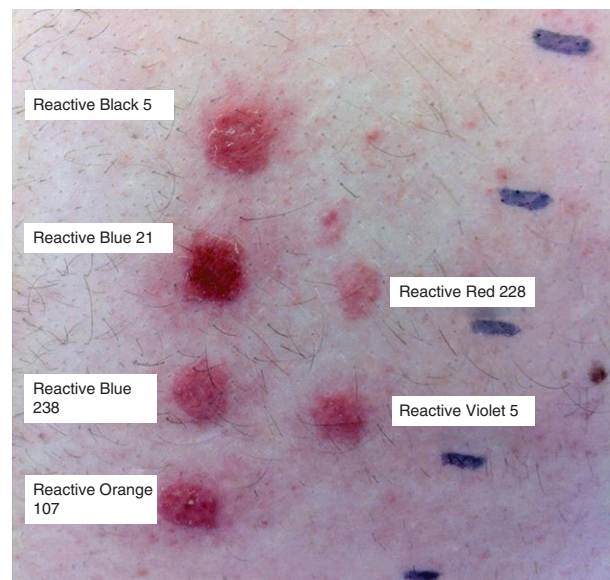


Fig. 1. Positive patch test readings at D3.

textiles floating in already boiling water. The textiles were boiled and then cooled for several hours, in open containers. The patient used ~10 times the amount of dyeing powder (usually 2–3 l) as the other employees, as he dyed the textiles in a dark shade. The dyes usually used by the patient were Remazol Red RB (CI 18221), Remazol Black B (CI 20505) and Remazol Golden Yellow RNL (the CI number was not declared for this colour).

After having developed dermatitis, the patient was given protective garments to wear at work. However,

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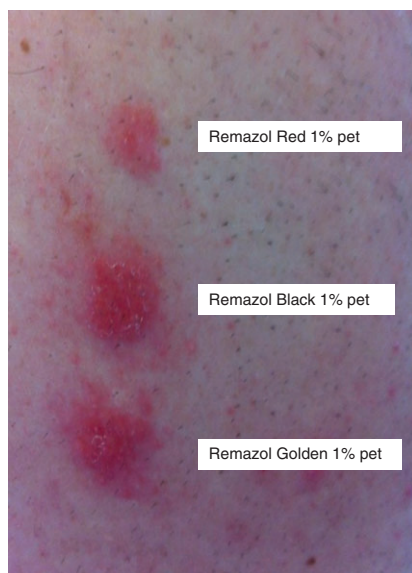


Fig. 2. The patient's own textile dyes; patch test readings at D3.

because of the heat and high humidity, he only wore the garments when in direct contact with the dyeing powder, that is, when adding the dyeing powder to the water bath. Subsequently, the dermatitis on the arms healed, but that on the neck did not disappear until he cut his dreadlocks. When these were taken apart, even though the patient was fair-haired, they were completely black from the dyeing powder on the inside.

The patient was patch tested with the European base-line series, with the textile colours and finish TF 1000 series (Chemotechnique, Vellinge, Sweden), and with his own three dyeing powders; 20 mg of the pet. preparations was used for each chamber. Finn Chambers[®] with a diameter of 8 mm (Epitest OY, Tuusula, Finland) on Scanpor[®] tape (Norgeplaster A/s, Vennessla, Norway) were used, and were removed after 2 days. Readings were performed

according to ICDRG criteria at day (D) 3 and D7, and the patient had 3+ reactions to Reactive Black 5, Reactive Blue 21, and Reactive Orange 107, and a 2+ reaction to Reactive Blue 238. The patient also reacted to Reactive Violet 5 (2+) and to Reactive Red 228 (1+) (Fig. 1). With regard to his own products, he had 3+ reactions to Remazol Black and Remazol Red, tested at 1% pet., and a 2+ reaction to Remazol Golden, also tested at 1% pet. (Fig. 2). The data safety sheets of these products declared that Remazol Black contained 70–85% reactive black 5; Remazol Red contained reactive red 198 and Remazol Golden was declared to contain to 80–90% Reactive Orange 107.

As type I reactions have also been described (4), the patient was also prick tested with the dyeing agents, but with negative results.

Discussion

This is a case that clearly shows that, however uncommon, occupational dermatitis caused by reactive dyes in the textile industry should be considered.

Taking into account that contact allergy to reactive dyes is rare, that the time relationship was clear, and that the patient's reactions to his own dyes were strong, it is likely that he was sensitized in the workplace. This case indicates that the amount of exposure is important for whether the patient is actually sensitized, as his colleagues were not. The additional continuous exposure from his dreadlocks was apparently sufficient to maintain the dermatitis on the neck.

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