



Case Report

Cultural dermatoses: Turmeric allergy (mangalsutra dermatitis and kumkum dermatitis) – A case report

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ABSTRACT

Customs and traditional practices may predispose to the development of dermatitis in unusual sites and patterns. The mangalsutra (thali) or holy thread is tied by the Hindu groom around the bride's neck and is a mark of her marital status, comparable to the wedding ring in the west. The thread is smeared with turmeric before the ceremony. Turmeric is considered auspicious and plays an important role in Hindu ceremonies. Although dermatitis to turmeric in kumkum is reported, its presentation as a mangalsutra dermatitis does not find mention. The patient who developed dermatitis with pigmentation over the contact sites of mangalsutra and over the forehead (corresponding to the bindi) is presented.

Keywords: Turmeric, Kumkum, Pigmented contact dermatitis, Mangalsutra

INTRODUCTION

Turmeric (*Curcuma longa* L.) is a rhizomatous herbaceous perennial plant belonging to the family Zingiberaceae, native to Southeast India, which has been used in various Indian systems of medicine (Ayurveda, Unani, and Siddha) and as a home remedy for various ailments. Chinese systems of medicine also use turmeric.^[1,2] It is a practice in South India to smear turmeric over the body and mangalsutra before bathing. The mangalsutra, once tied, is never removed from the body even while bathing.

Kumkum which can be made from turmeric (by adding alkali-slaked lime) is applied on the forehead by Indians either as “bindi” between the eyebrows or “sindoor” (over the hair parting). Saffron may be used as kumkum, but is very expensive so turmeric and other synthetic pigments are widely used. The sindoor is another symbol of the marital status. The common presentation of kumkum dermatitis is a pigmented contact dermatitis over site of application.^[3] Osmundsen used the term “pigmented contact dermatitis” to explain the pigmentation which occurred following contact dermatitis.^[4] Pigmented contact dermatitis to turmeric over the sites of contact of the mangalsutra has not been reported.

CASE REPORT

A 45-year-old lady presented with pruritus, dermatitis, and pigmentation over the neck extending to the area between the breasts and corresponding to the sites of contact of her mangalsutra [Figure 1]. She also complained of pruritus and hyperpigmentation over the forehead – the “bindi

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“area – corresponding to the site of application of kumkum [Figure 2]. She was not in the practice of using sticker bindi. The mangalsutra had coral beads, several gold pendants, and metallic items like a cross attached to it. She used to apply turmeric over the face, body, and the mangalsutra on auspicious occasions before bathing. She reported itching over the face and neck on the days, she applied turmeric paste. The possibility of allergic contact dermatitis to turmeric in the paste applied over the body and in kumkum was considered and she was patch tested with turmeric (undiluted), kumkum (undiluted), and synthetic pigments (Sudan I (95%), 4-aminoazobenzene, nickel, and cobalt) as she was unwilling for the application of the entire Indian Standard Series (ISS). Nickel was included for patch testing as one of the pendants was a metallic cross. This was tested for the release of nickel using the dimethylglyoxime test which turned out to be negative. Patch testing was carried out over the upper arm and readings taken on days 2 and 3. Day 2 (D2) reading showed + reaction at turmeric and kumkum

sites, a ++ reaction at nickel site and negative reactions over the site of application of the synthetic pigments [Figure 3]. Day 3 (D3) reading also showed a similar picture. To rule out contact urticaria, prick testing with turmeric and other dyes was carried out and was negative. Serum Ig E was normal. She was unwilling for a skin biopsy.

She was advised to stop using turmeric before bathing and to avoid applying kumkum. Mild topical corticosteroids for 2 weeks were prescribed. She reported improvement in the itching over the neck and forehead which recurred on resuming the practice.

DISCUSSION

Turmeric is commonly used as a condiment in South and East Asian countries. The active component of turmeric is curcumin, a polyphenolic phytochemical with anti-inflammatory, antiseptic, antitumor, and antioxidative properties that results in its use as an antidote for all maladies ranging from a common cold to malignancy. Curcumin “spices” up the immune system by inhibiting the release of histamine from mast cells suppressing Type I hypersensitivity.^[5] Turmeric is the essential ingredient in kumkum which is made by adding alkali or slaked lime to turmeric. Both turmeric and kumkum play in integral part in Hindu religious and marriage ceremonies. Allergic contact dermatitis to turmeric in kumkum and to curcumin in food coloring, milled spice, and yellow chlorhexidine solution used for skin disinfection before surgery has been reported.^[6,7] However, its presentation as a dermatitis involving the necklace area of the neck and chest as a mangalsutra dermatitis is unusual. Since turmeric is used extensively in South Indian cooking, it may result in oral hyposensitization and it is very rare that a person develops very severe dermatitis. Furthermore, the heat and the cooking itself may cause degradation of the allergens.

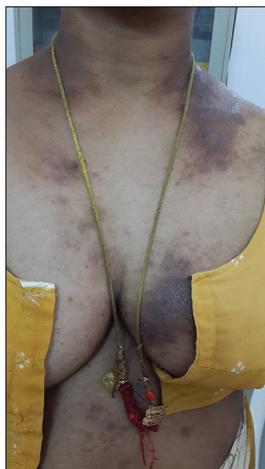


Figure 1: Pigmented dermatitis corresponding to the contact sites of the mangalsutra.



Figure 2: Pigmented dermatitis over the bindi area.



Figure 3: Patch test reading (D2) showing + at turmeric and kumkum sites and ++ at nickel site.

Since our patient consumed turmeric in diet, she complained of moderate itching over the face, forehead, and around the neck with pigmented dermatitis developing along with the contact sites of the bindi and the mangalsutra. The turmeric smeared over the mangalsutra before bathing would possibly be incompletely removed, causing persistent contact of the allergen with resultant dermatitis and pigmentation.

CONCLUSION

Pigmented contact dermatitis to turmeric in kumkum has been reported by several authors. However, its localisation to the area in contact of the mangalsutra does not find mention. It is important to advise women using turmeric to avoid smearing it on their mangalsutra prior to bathing as it is incompletely washed off, causing a persistent contact dermatitis in subjects allergic to turmeric. Kumkum alternatives may be advised after prior patch testing in individuals who had patch tested positive to turmeric.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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