

LETTER TO THE EDITOR

Allergic contact dermatitis caused by Chinese herbal medicine, white mustard seed

Dear Editor

Allergic contact dermatitis from topical Chinese herbal medicine has been reported previously.^{1–3} We describe a case of allergic contact dermatitis from a topical Chinese herbal medicine for the treatment of tracheitis. A 48-year-old woman, without a personal history of eczema or atopy, presented with plaques on her back for 5 months and papules predominantly involving her extremities for 1 month (Fig. 1a). She had developed symptoms after 1 week of using a topical Chinese herbal medicine patch on her back for the treatment of tracheitis. She described having itchy, burning, red and bullous lesions. Her symptoms initially began on her back at the area of patch placement, and then progressively spread to her arms, legs and abdomen 1 month prior. Her symptoms continued for 5 months, despite the fact that she stopped using the patch. Biopsy specimens taken from the leg and back showed eczematous changes (Fig. 2). Given the patient's history and biopsy results, there was a high level of suspicion of an allergic contact dermatitis, and patch testing was performed. However, the skin rash did not flare-up after patch testing. The results were recorded at day 2 (D2) and D3 according to International Contact Dermatitis Research Group recommendations.⁴ The topical Chinese herbal medicine is composed of *Asarum*, white mustard seed (NingBo Dekang Biochem, Zhejiang, China),

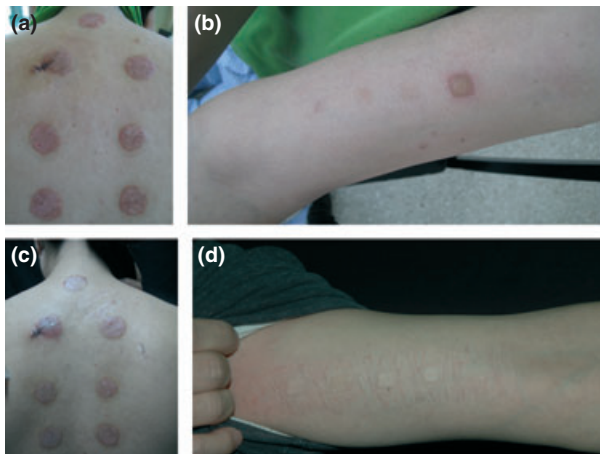


Figure 1. (a) Clinical picture of allergic contact dermatitis caused by white mustard seed. (b) Positive (+++) patch-test reaction to white mustard Seed (patient). (c) Negative patch-test reaction to white mustard seed (control subjects). (d) Skin lesions after treatment.

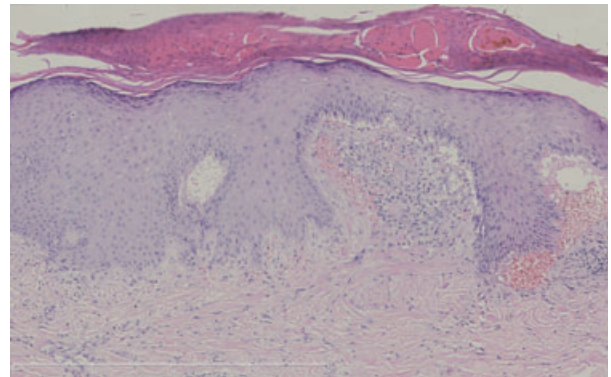


Figure 2. Histopathological features of plaque on the back showing acanthosis and intercellular edema with superficial crust (hematoxylin–eosin, original magnification $\times 100$).

Rhizoma Corydalis, liquorice and ginger. Allergens (50% in aqua) were applied to the upper arm using IQ chambers (Chemotechnique Diagnostics, Vellinge, Sweden). The only positive reaction (erythema and bulla) was to white mustard seed (+++D2+++D3) (Fig. 1b). Patch testing with white mustard seed in five control subjects gave negative results (Fig. 1c). The rash on the extremities improved with topical corticosteroids (Eloson [Schering-Plough, Shanghai, China], mometasone once daily for 1 week), but the rash on the back responded poorly. Then, 0.03% tacrolimus was changed for external use on the back and the skin lesion was gradually brought under control within 1 week (Fig. 1d).

In China, most patients believe that Western medicine is more effective in the acute stage of many diseases and Chinese herbal medicine including topical Chinese herbal medicine is better for chronic conditions. However, patients also believe that although Western medicine works much faster than Chinese herbal medicine on acute diseases, it creates more adverse side-effects than Chinese herbal medicine. Thus, if health problems are not serious, Western medicine is usually avoided.

However, as Li and Wang² reported previously, a lot of topical Chinese herbal medicine known to almost everyone in China can cause allergic contact dermatitis. The positive reaction on patch testing to suspected herbal allergens are mainly fragrance and colophonium which is not the compound of white mustard seed. The dominant compounds of white mustard seed are numerous saturated and mono-, di- and

tri-unsaturated fatty acids having 16–24 carbon atoms (oleic, linoleic, linolenic, eicosenoic, erucic and 4-[hydroxymethyl] phenol).⁵ The suspected ingredient that could cause allergic reaction is 4-(hydroxymethyl) phenol.

As white mustard seed is widely used in topical Chinese herbal medicine, when allergic contact dermatitis is suspected, use of topical Chinese herbal medicine should be discontinued, and patch testing with all components is recommended.

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REFERENCES

- 1 Li L-F, Zhao J, Li S-Y. Exanthematous drug eruption due to Chinese herbal medicines Sanjieling capsule and Huoxuexiaoan pill. *Contact Dermatitis* 1994; **30**: 252.
- 2 Li LF, Wang J. Patch testing in allergic contact dermatitis caused by topical Chinese herbal medicine. *Contact Dermatitis*. 2002 Sep;**47**:166–168.
- 3 Chen HH, Sun CC, Tseng MP, Hsu CJ. A patch test study of 27 crude drugs commonly used in Chinese topical medicaments. *Contact Dermatitis* 2003 (Jul); **49** (1): 8–14.
- 4 Wahlberg JE. Patch testing. In: Rycroft RJG, Menne T, Frosch PJ, Benzra C, eds. *Textbook of Contact Dermatitis*. Berlin: Springer Verlag, 1992; 241–265.
- 5 Dragana P, Šolević Knudsen T, Krivokapić M. Sinalbin degradation products in mild yellow mustard paste. *Hem Ind* 2012; **66**: 29–32.