

Two Cases of Allergic Contact Dermatitis to Rosehip Oil

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Rosehip oil is a natural material extracted from the seeds of wild roses. It has been used for cosmetic problems, such as wrinkles, scars and burns.

We report herein two cases of allergic contact dermatitis after the use of rosehip oil by two 18 year old girls. Erythematous, maculo-papular or vesiculo-papular eruptions developed on the faces, trunks, and extremities while using bath oil for 10 to 14 days. The bath oil was found to be a product of rosehip oil. Patch tests showed strong reactions to rosehip oil, bath oil as is, and the patch base. (*Ann Dermatol* 8:(2)114~116, 1996).

Key Words : Allergic contact dermatitis, Rosehip oil

Rosehip oil is a natural material, extracted from the seeds of a wild rose, *rosa mosqueta*, which grows in the Andes of Chile. It has been used for a long time as a folk remedy for beautiful skin and hair by American Indians and South American sailors. Recently it has been used for cosmetic problems, such as wrinkles, scars and burns in North and South America and Europe.

REPORT OF A CASE

An 18-year-old female(case 1) presented pruritic, erythematous, maculo-papular eruptions on the face, neck, arms, hands, and legs which developed while using bath oil as an emolient for her skin after bathing 10 days previously(Fig. 1). The other 18-year-old female(case 2), a classmate of case 1, complained of similar skin lesions on the trunk, both thighs and legs which occurred after the application of the same brand of bath oil for 14 days(Fig. 2). Past medical histories and family histories were non-contributory factors in both cases.

Allergic contact dermatitis was strongly suspected.

We performed patch tests with the European standard series and the ingredients of the bath oil and the bath oil as is. Standard batteries showed all negative reactions in both cases. However case 1 showed strong reactions to rosehip oil, patch base and bath oil as is(Fig. 3), and case 2 showed nearly the same results as case 1(Table 1). We recommended that they stop using the bath oil. The skin lesions then improved with oral antihistamines and topical steroids in both cases following 2-3 weeks.

DISCUSSIONS

Rosehip oil is highly rich in fatty acids(Table 2). It's pH is 5.1, and it has been considered to have a protective effect on photoaging. We could not find other reports of anyone getting allergic contact dermatitis after using rosehip oil, except in one case where Bulgarian rose oil¹ was used. This oil has been considered to have an anti-inflammatory effect^{2,3}. The case was of a 48-year-old female, who developed itchy papules and an erythematous patch on her scalp after using Eau de cologne in which Bulgarian rose oil was found as an ingredient.

We did the patch testing with 1 % of each in-

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Table 1. Results of the patch test

Ingredients	Case 1	Case 2
1. Rosehip oil	++	++
2. Tween-60	-	-
3. Fragrance	-	-
4. Milk	-	-
5. Preservative I	-	-
6. Preservative II	-	-
7. Jojoba oil	-	-
8. Butylene glycol	-	-
9. Liquid paraffin(LP)-70	-	-
10. Patch base(PB) (aqua + Surfactant + LP)	++	+
11. PB + Fragrance	++	++
12. PB + Milk	++	++
13. PB + Preservative I	++	++
14. PB + Preservative II	++	+
15. PB + Rosehip oil	++	+
16. PB + Butylene glycol	+	++
17. PB + Chamomile oil	+	++
18. PB + Jojoba oil	++	+
19. PB + Liquid paraffin	++	+
20. PB + Glycerin	-	-
21. Bath oil as is	++	++
22. Bath oil as is	++	++
23. Bath oil as is	++	++
24. Bath oil as is	++	++

Table 2. Rosehip oil constituents*

Fatty acid	Percentage(%)
Linoleic acid	45.20
Linolenic acid	33.40
Oleic acid	14.60
Palmitic acid	3.70
Stearic acid	1.80
Palmitoleic acid	0.20
Heptadecanoic acid	0.06

* cited from product brochure.

gradient of bath oil solution of 15 microliters using the Finn® chamber with filter paper disc for 48 hours. Patch test results showed a strong positive reaction to rosehip oil and the patch base³, which was composed of water, a surfactant mixture, and liquid paraffin. The surfactant mixture was composed of sorbitan sequioleate and polyethylene oxide sorbitan monostearate. Water and liquid paraffin are rare irritants or allergens to skin,



Fig. 1. Well defined, pruritic, erythematous, maculopapular eruptions on left dorsum of hand(case 1).



Fig. 2. Erythematous, maculopapular eruptions on right forearm(case 2).

and the surfactant mixture solution can be irritating, but rarely allergenic. The positive reaction caused by the patch base may be an irritant or a false positive reaction, possibly because of the excited skin state(ESS).

The major constituents of rosehip oil are fatty acids. It is well-known that fatty acids are rarely allergenic. The allergic reaction to rosehip oil in

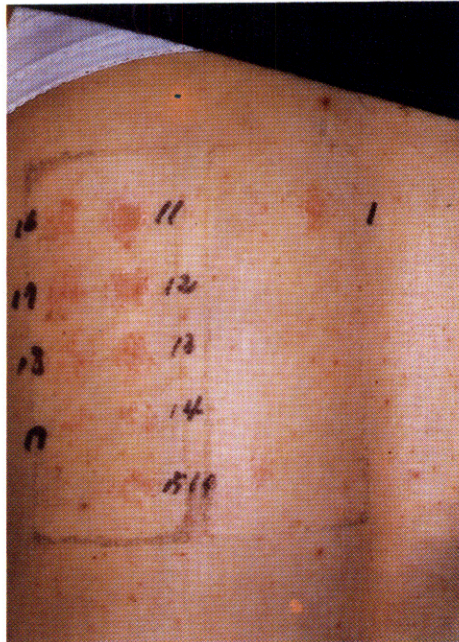


Fig. 3. The positive reaction of patch testing to ingredients of bath oil at 48 hours(case 2).

our cases might have been caused by another minor unidentified component of rosehip oil.

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