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LETTER TO THE EDITOR

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A case of non-rhododendrol whitening cosmetics-induced leukoderma

Dear Editor,

Although many cases of leukoderma due to whitening cosmetics containing 4-(4-hydroxyphenyl)-2 butanol (rhododendrol), a melanogenesis-inhibiting agent, have been reported in Japan since 2013,[1] the number of reports of leukoderma due to whitening cosmetics without rhododendrol is limited.[2–4] We report herein the case of an 81-year-old woman with non-rhododendrol–induced leukoderma.

The patient visited our hospital because of leukoderma on the entire face (with the exception of the anterior ear and periocular sites, from the medial angle of the eyes to the lower eyelids), the front of the neck, and the back of the hands to which she had applied whitening cosmetics for 27 months (Figure 1A). No flaring was noted before the leukoderma occurred. Her past history included hypertension and hyperlipidemia. She had been using five kinds of whitening cosmetics that did not contain rhododendrol and were made by a Japanese company. She discontinued their usage just after the onset of leukoderma. The patient was followed up without treatment, pigmentation spots were partially formed on her face, and newly developed leukoderma was also observed at the distal end of both forearms. The results of patch tests with each of the cosmetics were negative, and the laboratory data, including thyroid function, were normal. Considering the characteristic distribution of the leukoderma and the past history of usage of whitening cosmetics without rhododendrol, we diagnosed the case as non-rhododendrol whitening cosmetics–induced leukoderma. Seventeen months after the onset of leukoderma, she started topical treatment with 0.1% tacrolimus ointment, and the leukoderma gradually improved without spreading (Figure 1B).

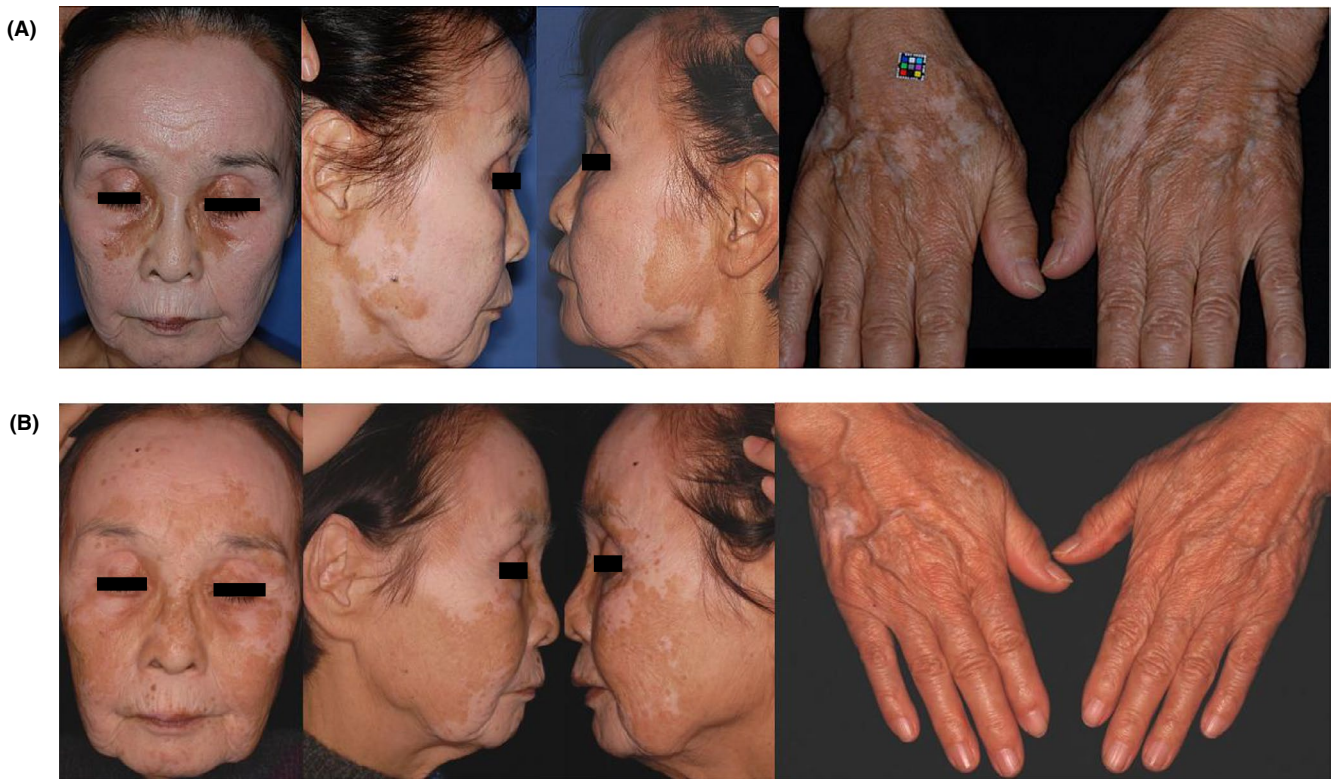

FIGURE 1 Clinical manifestation before (A) and 3 years after (B) treatment with 0.1% tacrolimus ointment

Among the five kinds of whitening cosmetics that the patient had used, four contained 2L-ascorbic acid-glucoside (AA-2G), which is a stabilized derivative of ascorbic acid, and one contained β-arbutin, which is made from hydroquinone. Both of them are listed as quasi-drugs for the labeling of ingredient names in Japan; they are commonly found in Japan and have been used as safe whitening agents for a long time. It remains unclear whether the AA-2G, β-arbutin, or another ingredient caused the leukoderma in the present case.

In the present case, the leukoderma was not significantly improved and new lesions appeared even after discontinuation of the causative agents, as has been reported in some cases of rhododendrol-induced leukoderma. However, the leukoderma was alleviated with the use of topical tacrolimus ointment. The clinical course suggests that an autoimmune response might have been triggered by the long-term use of whitening agents[5] and involved in the pathogenesis of the leukoderma in the present case.

We believe the accumulation of data from similar cases in the future is necessary for elucidating the pathological mechanism of whitening agent–induced leukoderma.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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