〈シンポジウム〉香粧品原料をめぐる問題

香粧品成分のパッチテストの意義

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Problems of Closed Patch Tests with Ingredients of Cosmetic Products

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a. In the preface, various problems of closed patch tests with ingredients of cosmetic products, such as purity and concentrations of chemicals, vehicles (Fig. 1 & 2, Table 1), differentiation of allergic reactions from irritant ones, etc. were discussed.

b. The positive frequency of lanolin, lanolin alcohol, esters of paraoxybenzoic acid, ethyl paraamino benzoic acie etc. was low in patients with cosmetic contact dermatitis and facial melanosis due to cosmetics. TiO_2, Fe_2O_3 and certain pigments produced weak irritant reactions in some cases (Table 2).

c. The skin safety of 31 permitted tar color substances used for cosmetic products was studied in patients with contact dermatitis due to cosmetics and other products. 10 and 100 times higher concentrations than those of the actual percentages contained in cosmetic products of each dye were tested with closed patch method (Table 3). The vehicles were white petrolatum and a solvent composed of 90 per cent distilled water and 10 per cent ethanol. The results revealed that Red 219 and Yellow 204 produced allergic and irritant reactions in some cases (Table 4).

d. 10% and 20% of certain fragrance materials such as citral, cinnamic aldehyde, geraniol, hydroxycitronellal etc. sometimes produced a definite irritation. For this reason, 5, 2, 1, 0.5, 0.2 and 0.1 per cent of each fragrance material in white petrolatum were closed patched on the contact dermatitis patients in my study on skin safety of 56 commercially available fragrance materials. The results of closed patch tests with 5 per cent of each material were shown in Table 5. Costus root oil, which was the most powerful sensitizer in this study, dihydrocoumarin, methyl heptene carbonate, cinnamic aldehyde, cinnamic alcohol, anisylidene acetone, benzylidene acetone etc. produced definite allergic reactions in some cases, although 5 per cent of certain materials such as costus root oil, cinnamic aldehyde, benzylidene acetone often produced irritant reactions. Also, allergic reactions to Peru balsam, cassia oil, isoeugenol, eugenol and some others were experienced in some cases.
The frequency of the agreement between the results of my study and those of the human maximization tests by Drs. Kligman and Epstein, W. was quite high (Table 6).

e. The closed patch tests using test materials such as base, base + perfume, base + preservative, base + other ingredients (Table 7), base − each emulsifier (Table 8) etc. of each cosmetic product which was suspected to be responsible from the results of patch tests and actual application tests. were thought

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to be one of the best ways to detect causal agents, even though it was not always successful, especially in cases of weak irritant dermatitis.

f. Increased frequency of positive reactions to cosmetics, such as make up foundations, milky lotions, make up bases, pressed powders etc. in patients with cosmetic dermatitis and facial melanosis due to cosmetics, compared with the control group, such as acne, rosacea, chloasma, seborrheic dermatitis etc., was observed (Fig. 3).

However, definite allergic reactions to cosmetic products were not frequently noticed in this study. Positive frequency of weak irritant reactions by closed patch tests to various concentrations of 8 creamy soaps on healthy volunteers was shown in Table 9. Paitents with cosmetic dermatitis didn't produce any positive reactions with photo patch tests of cosmetics, although a small number of patients with facial melanosis produced them.

The results obtained from the closed patch tests with cosmetic products were in agreement with those of the practical applications in about 80 per cent of products tested (Table 10).