

Contact Dermatitis Afflicting Barbers and Beauticians

— Barbers and Beauticians Afflicted with Rough Skin —

Field name "Disorders dependent on physical factors such as temperature, air pressure, and radiation"

Based on an investigation using questionnaires submitted to barbers and beauticians in Miyagi prefecture, we identified that many barbers and beauticians suffer from rough skin due to allergic contact dermatitis the source of which is thought to be hair products such as hair dye used in their work^{1, 2, 3, 4} (Fig. 16). When we carried out patch tests on 61 barbers and beauticians to screen for the source of the rough skin, we found that products such as hair dye, shampoo, and perm solution tested positive (Fig. 17). Furthermore, when we carried out patch tests on the components of the products, we found that chemicals such as p-phenylenediamine, p-amino azobenzene, Red 225, and cocamidopropyl betaine tested positive (Figs. 18 and 19).

After we informed the patients of which hair products tested positive, they commented that after diluting the shampoo that tested positive they noticed that the rough skin subsided or that after replacing the product that tested positive with another product, they recovered from the skin rash. These statements are proof that the results of this research are useful in preventing occupation contact dermatitis.

We summarized the research results up to this point and produced the barber and beautician guidebook for preventing hand rash and rough skin⁴.

In April 2009, the "Specialized Investigative Committee on Article 35 of the Labor Standards Enforcement Regulations" was convened with "contact dermatitis from the use of barber/beautician shampoo, cold perm solution, etc." as the agenda using the results of this research as the basis.

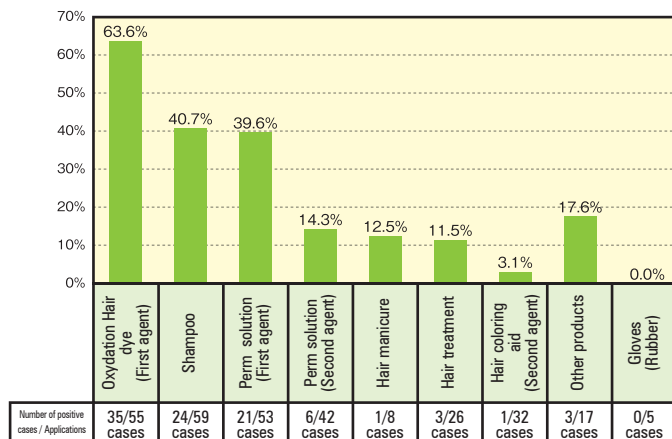


Fig. 17. Results of product patch test (positive rate for patch test according to product)

Responses indicating that dermatitis is present currently and occurred previously

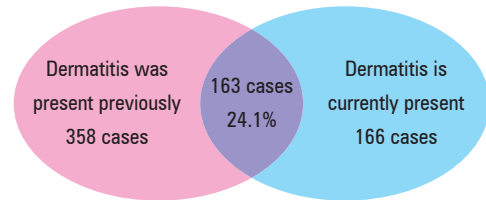
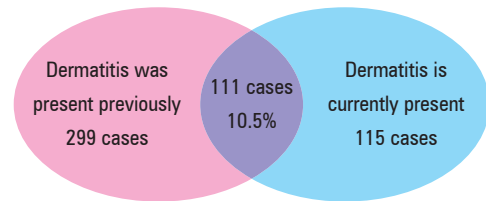
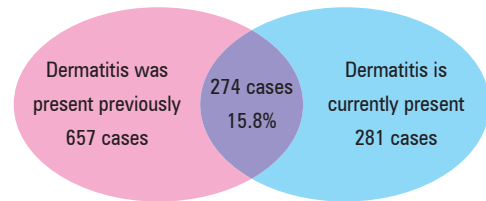
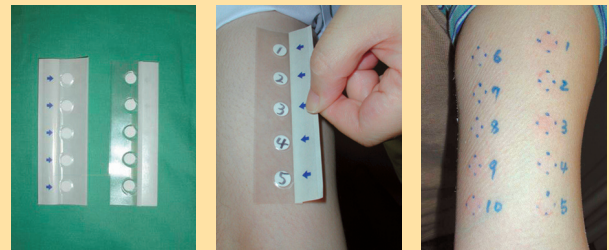
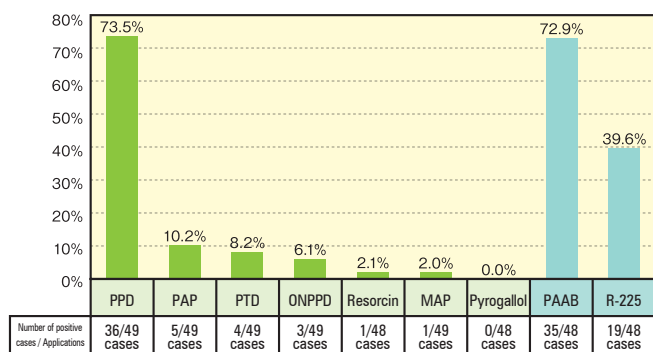


Fig. 16. Fieldwork report on barbers and beautician in Miyagi prefecture

Patch test

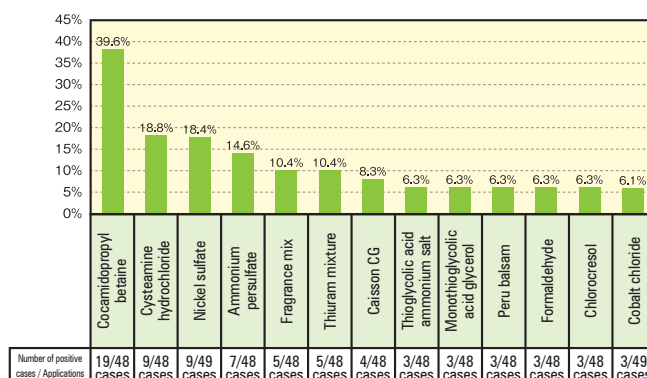
To confirm the source of contact dermatitis or rash, the questionable substance is applied to the back or arm to verify a reaction.





* PDD: p-Phenylenediamine PAP: Paraaminophenol PTD: Paratoluenediamine
 ONPPD: Ortho-Nitro-p-phenylenediamine MAP: Meta-aminophenol
 PAAB: p-Aminoazobenzene R-225: Red 225
 * Although PAAB and R-225 are not hair dye components, we tested them because they were reported to be allergens.

Fig. 18. Patch test positive rate of components ① hair dye components and related substances



* Two of 48 cases tested positive (positive rate of 4.2%) for hydrogen peroxide water, chloroacetamide, imidazolidinyl urea, quaternium 15, and zinc pyrithione. One of 48 cases tested positive (positive rate of 2.1%) for monoethanol-amine and chloroxylenol.

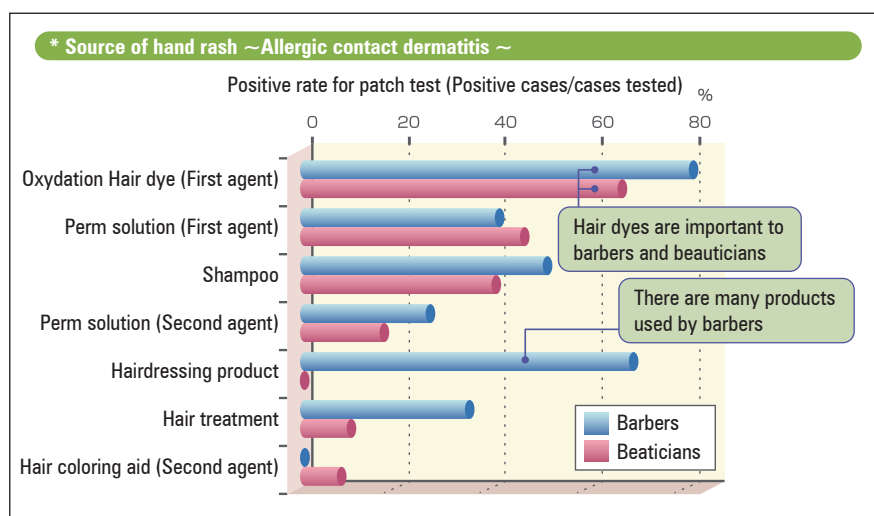
Fig. 19. Patch test positive rate of components ② other allergens

Comments from the patch test subjects

- I was surprised that the products that claimed to be gentle to the skin tested positive in the patch test. If I didn't take the patch test I wouldn't have known the source of my dermatitis.
- After replacing the product that tested positive with another product, my skin rash went away completely.
- After diluting the shampoo that tested positive in the patch test and avoiding touching the areas where the hair dye was applied, my skin rash became less severe than before.



Barber and beautician guidebook for preventing hand rash and rough skin



Results based on the patch test of 63 barbers and beauticians in Miyagi prefecture

References:

- 1) Tanita M.: Contact dermatitis afflicting barbers and beauticians – Fieldwork report on barbers and beauticians in Miyagi prefecture. The Japan Labour Health and Welfare Organization, Clinical Research Center for Occupational Physical Factor Induced Disease, 2007.
- 2) Tanita M.: Contact dermatitis afflicting barbers and beauticians – Fieldwork report on barbers and beauticians in Miyagi prefecture (Part 2). The Japan Labour Health and Welfare Organization, Clinical Research Center for Occupational Physical Factor Induced Disease, 2008.
- 3) Tanita M., et al.: Research, development, and dissemination of a precise diagnosis method involving the identification of external factors for occupational dermatitis, Research report. The Japan Labour Health and Welfare Organization, Clinical Research Center for Occupational Physical Factor Induced Disease, 2008.
- 4) Tanita M. and Masu A.: Barber and beautician guidebook for preventing hand rash and rough skin, The Japan Labour Health and Welfare Organization, Clinical Research Center for Occupational Physical Factor Induced Disease, 2009.

* References 2 and 4 can be viewed at <http://www.research12.jp/h13/index.html>, a site dedicated to the research and development, and dissemination projects related to the 13 fields of occupational injuries and illnesses.

* Reference 3 can be viewed at <http://www.research12.jp/h13/index2.html>, a site dedicated to the research and development, and dissemination projects related to the 13 fields of occupational injuries and illnesses.