



Patch testing in facial dermatitis using Chinese Baseline Series (60 allergens) and Cosmetic Series (58 allergens)

To the editor,

Facial dermatitis (FD) is a common problem encountered in clinical practice. It affects patients' self-esteem and quality of life. Mild reactions such as itching, pricking and dryness can occur in more than 10% of patients.¹ Recurrence is common in FD. The cause of FD is often difficult to determine. Metals, cosmetics, air pollution and physical factors such as wind or changes in temperature and humidity in the environment may all contribute to the development of FD.² A patch test is useful in establishing the identification of FD.^{1,2} The present study was carried out to determine the incidence and role of contact allergy in FD, using the Chinese Baseline Series and Cosmetic Series.

We carried out a retrospective review of medical records from female patients with FD between 2015 and 2016 in Peking University People's Hospital Dermatology Clinics. A total of 443 female patients with FD were included. Patch test was performed with the Chinese Baseline Series and the Cosmetic Series and IQ chamber (Chemotechnique Diagnostics, Malmo, Sweden). In our study, we divided FD into facial cosmetic dermatitis (FCD), in which lesions relate to the use of cosmetics, and non-FCD, in which dermatitis irrelevant to cosmetics (1). In FCD group, 88 patients highly suspected of facial cosmetic allergic contact dermatitis were using Cosmetic Series 58 allergens (2). In non-FCD group, the other 355 patients were using Chinese Baseline Series (60 allergens). The patch test was applied on the upper back for 48 hours. And the results were recorded at 2 and 3 days according to International Contact Dermatitis Research Group (ICDRG).³ Variables not normally distributed were analysed using *t*-test. The differences in the positivity rate between the two groups were using Pearson's chi-square test. A *P*-value <0.05 was considered to indicate statistical significance.

Statistical analysis was carried out using SPSS 20.0 (IBM SPSS, Chicago, IL, USA).

A total of 443 female FD patients underwent patch testing at our dermatology clinics. There is no significant difference between the two groups. Of the 443 female patients diagnosed FD, 311 (70.2%) patients showed at least one positive reaction. The positive reaction rates were 71.3% in non-FCD group and 65.9% in FCD group. Positive reaction rates for the top 10 in non-FCD group and FCD group are shown in Table 1. Positivity rate of patch tests to eight common allergens included in both two series is shown in Table 2.

Methylisothiazolinone + methylchloro-isothiazolinone (MCI/MI) is to be found the most common allergens which matches with the study done earlier in other countries.^{1,2,4} MCI/MI was a combination of 1:3 with MI and MCIs. It has been used in toiletries, household products, wall paints and industry. This combination has represented an important cause of preservative contact allergy with regard to its use in consumer products and paints.⁵ We found an increase in the prevalence of MI and MCI/MI in previous studies.^{6,7}

Fragrance mix I (FMI) has been the most important screening marker for contact allergy to fragrances. We hypothesis it would be interesting to study fragrance allergy beyond FMI in China. Fragrance mix II (FMII) contains six frequently used constituents of perfumes. We found the data in the previous literature are between 2.1% and 9.3% of contact allergy to FMII in patients.^{8–10} However, we are unaware of any previous reports of Chinese relationship about the positive rate of fragrance mixture II. In our study, the positivity reaction rate of FM I (7.0%) was much higher than FM II (2.5%) in FCD group. Besides, we found an interesting result that the positive rate of FMII in FCD patients (6.8%) was significantly much higher than in non-FCD patients (2.8%), thus indicating patch testing for FMII may be much more necessary than FMI for whom suspected of FCDs.

Fen Peng is responsible for paper writing, data reduction and statistic analysis; Chen-hong Xue is giving a hand to data

Table 1 positive reactions rates for the top 10 allergens to non-facial cosmetic dermatitis (FCD) and FCD group

Non-FCD group	Positive reactions, <i>n</i> (%)	Prevalence	FCD group	Positive reactions, <i>n</i> (%)	Prevalence
Methylisothiazolinone	78 (22.0%)	1	MCI/MI	22 (25.0%)	1
Nickel(II)sulfate hexahydrate	57 (16.1%)	2	MI	21 (23.9%)	2
Cobalt(II)chloride hexahydrate	56 (15.8%)	3	Hydroperoxides of linalool	17 (19.3%)	3
Hydroperoxides of Linalool	42 (11.8%)	4	t-Butyl hydroquinone	16 (18.2%)	4
Benzoylperoxide	28 (7.9%)	5	Thimerosal	14 (15.9%)	5
Hydroperoxides of limonene	27 (7.6%)	6	Sorbitan sesquioleate	11 (12.5)	6
Textile dye mix	27 (7.6%)	7	Dodecyl gallate	10 (11.4%)	7
Formaldehyde	26 (7.3%)	8	Musk mix	8 (9.0%)	8
MCI/MI	26 (7.3%)	9	p-chloro-m-cresol	7 (7.9%)	9
Fragrance mix I	25 (7.0%)	10	Drometizole	7 (7.9%)	9

MCI/MI, methylisothiazolinone + methylchloroisothiazolinone.

Table 2 Positivity rate of patch tests to common allergens in the two groups

Allergen	Non-FCD (n = 355)	FCD (n = 88)	P-value
p-phenylenediamine (PPD)	9 (2.5%)	5 (5.7%)	0.131
Methylisothiazolinone/methylchlorisothiazolinone	26 (7.3%)	13 (25%)	0.001*
Methylisothiazolinone	78 (22.0%)	21 (23.9%)	0.703
Fragrance mix II	9 (2.5%)	6 (6.8%)	0.004*
Hydroperoxides of linalool	42 (11.8%)	17 (19.3%)	0.064
Quaternium-15	8 (2.3%)	2 (2.3%)	0.991
Cinnamal	6 (1.7%)	4 (4.5%)	0.106
Tea tree oil oxidized	13 (3.7%)	3 (3.4%)	0.909

*The mutually adjusted association was defined as significant if $p < 0.05$.

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F. Peng,¹ Z. Mu,¹ C. He,² C. Xue,¹ W. Li,¹ Q. Wang,²
Z. Chen,^{1,*} J. Zhang¹

¹Dermatology, Peking University People's Hospital, Xizhimennan Avenue, Xicheng District, Beijing, 100044, China, ²Beijing Key Laboratory of Plant Resources Research and Development, Beijing Technology and Business University, Beijing, 100012, China

*Correspondence: Z. Chen. E-mail: chenzhou54@sohu.com

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Chronology of regional lymph node metastases in cutaneous melanoma: a model based on mitotic rate

Recently, the MSLT-II¹ and DeCOG² clinical trials have failed to demonstrate a benefit for the lymphadenectomy vs. observation in the setting of a patient with positive sentinel lymph node biopsy. Therefore, it is expected in the short term an increase in the patients with a more conservative management and obviously, more regional recurrences.

Based on the assumption that the time of metastasis depends on the kinetics of primary tumour³ and considering that mitotic rate is the most widely used kinetic parameter in cutaneous melanoma with a prognostic role proportionally related with the number of mitosis,^{4,5} we undertook a quantitative analysis of time to onset of regional lymph node metastasis using a model based on the mitotic rate of the primary tumour. The working hypothesis was that melanomas with a higher mitotic rate would metastasize earlier than those with a lower rate. To test this hypothesis, we studied all patients with stage I-III melanoma with a known mitotic rate who had been included consecutively in the database of the Instituto Valenciano de Oncología, Spain (925 patients in total). With a follow-up of 59 months, for each recurrence case ($n = 47$), we used time to regional lymph node metastasis and mitotic rate to detect a mathematical relationship between the *maximum critical time* for the onset of metastasis and mitotic rate.