

### INTRODUCTION

Information regarding allergens detected by patch tests in Mexico and Latin America is scarce. Our objectives were to identify the prevalence of positivity of each allergen using the European and North American series on patients in Northeast Mexico, as well as to correlate these results with demographic variables.

### METHODOLOGY

This is an observational, retrospective, longitudinal and unicenter study. Medical records of patients who underwent patch testing in the Contact Dermatitis Clinic at the Dermatology Department of the University Hospital “Dr. José Eleuterio González”, of the Universidad Autónoma de Nuevo León, Mexico, between 2007 and 2019 were retrospectively reviewed.

### RESULTS

A total of 316 patients were tested. There were 233 patients (73.3%) who had at least 1 positive reaction [177 females (75.9%) and 56 males (24.1%)]; 71 patients (30%) were polysensitized ( $\geq 3$  allergic reactions). Of these patients, the average age was 40 years (range, 7-75; median 40).

In general, the 5 most common allergens were: nickel in 67 patients (28.7%), followed by methylchloroisothiazolinone / methylisothiazolinone (MCI/MI) in 56 (24.0%), methyldibromo glutaronitrile / phenoxyethanol (MDBGN-PE) in 28 (12%), potassium dichromate in 25 (10.7%), and fragrance mix 8% in 22 (9.4%). Table 1 shows the most common allergens in male and female. Table 2 shows the number of patients and most common allergen by affected area.

Of the patients with at least 1 positive reaction, 215 were adults and 18 pediatric. The most common allergen was nickel in both groups (60 patients (27.91%) and 7 (38.8%), respectively). Table 3 shows the most common allergens in pediatric patients.

History of allergic diseases or specific allergies were present in 42 patients with at least 1 positive reaction in patch test (18%). The most common allergens in these patients were MCI/MI in 18 patients (42.9%), nickel in 10 (23.8%), and phenylmercuric acetate in 7 (16.6%). Table 4 shows the allergic diseases in these patients.

Table 1. Most common allergens in males and females			
Males	n=56	Females	n=177
Potassium dichromate	13 (23%)	Nickel	56 (31%)
Nickel	11 (19%)	MCI/MI	48 (27%)
Cobalt	9 (16%)	MDBGN-PE	20 (11%)
Iodopropynyl butylcarbamate (IPBC)	9 (16%)	Phenylmercuric acetate	16 (9%)
MCI/MI, and MDBGN-PE	8 (14%)	Fragrance mix	15 (8%)

Table 2. Number of patients and most common allergen by affected area			
Area	Patients	Most common allergen in the area	Patients affected by this allergen in the area
Upper limbs	157	Nickel	43 (27%)
Arms	26	Nickel	7 (26.9%)
Forearms	23	MCI/MI	8 (34.7%)
Hands	105	Nickel	27 (25%)
Head	88	MCI/MI	29 (32.9%)
Eyelids	21	MCI/MI	10 (47.6%)
Periorbital	9	MCI/MI	6 (66.6%)
Lower limbs	75	Nickel	24 (32%)
Thigh	7	MCI/MI, and octyl gallate	2 (28.5%)
Leg	21	Nickel, and MCI/MI	7 (33.3%)
Feet	34	Nickel	12 (35.2%)
Trunk	49	Nickel	19 (38%)
Neck	34	Nickel	13 (36%)
Genital	7	IPBC	4 (57.14%)

Table 3. Most common allergens in pediatric patients	
Allergen	n=18
Nickel	7 (38.8%)
MCI/MI	3 (16.6%)
Potassium dichromate	3 (16.6%)
Cobalt	3 (16.6%)
Propylene glycol 100 %	3 (16.6%)

Table 4. History of allergic diseases	
Allergy	n=42
Allergic rhinitis	16 (38%)
Penicillin allergy	10 (23.8%)
Asthma	9 (21.4%)
Atopic dermatitis	8 (19%)
Sinusitis	2 (4.7%)

### CONCLUSIONS

These results confirm that the most prevalent allergens documented in other countries, such as nickel and methylisothiazolinone, are also the most prevalent in our study group. The main limitations of this study are its retrospective design and the limited geographic region being evaluated.