

# Status of Contact Dermatitis and Hand Eczema in Dubai, U.A.E.

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## SUMMARY

Twenty-five cases (22 females and three males) who attended the Dermatology outpatient clinic in Kuwait Hospital, Dubai, UAE entered this study. All of them complained of hand eczema which was diagnosed as contact dermatitis (C.D.) of the hands. The closed patch test technique was performed for all of them using the Standard European battery containing 22 allergens. The results were interpreted and analyzed using the I.C.D.G. mode of interpretation after 48 and 96 hours, respectively.

We found that nickel sensitivity represented the most common type of sensitivity in hand eczema in both citizens and foreigners living in Dubai, while parabens of perfumes represented the second common sensitizers. We think that patient testing in case of C.D. of the hand is a very good tool for investigating hand eczema.

## Introduction

Contact dermatitis particularly that of hand is a common complaint frequently encountered in dermatology out-patient clinics. Several contributory factors have been reported including contactants whether irritants or sensitizers. In Europe, Wilkinson and co-workers<sup>1</sup> in their study, showed that contactants were responsible for 68% (36%

allergic and 32% irritant). In the United States, one study showed that 26% reacted to an allergen.<sup>2</sup> In a more recent African study, 58.6% of cases of hand eczema were allergic in nature.<sup>3</sup>

Environmental, geographical, socio-economic and industrialization are well known factors which affect the incidence, course, and prognosis of hand eczema.

The aim of the present study is to report the incidence of C.D. in Dubai which is the second largest emirate of UAE. It also attempts to identify the common sensitizers responsible for hand eczema.

## Material and Methods

This study was carried out at the Dermatology and Venereology Clinic in Kuwait Hospital, Dubai, in the period from May to December 1992. Out of the total of new attendants, 394 presented with contact dermatitis and 296 with hand contact dermatitis.

Twenty-five cases with the diagnosis of hand contact dermatitis were included in this study. Each case was subjected to thorough history with emphasis on personal history, occupation, exposure hazards, and past history. All patients were examined medically for systemic or local diseases. Age of the patients ranged between 13-61 years with the

eczema lasting from three months to 12 years. Out of these cases 22 were females and three males.

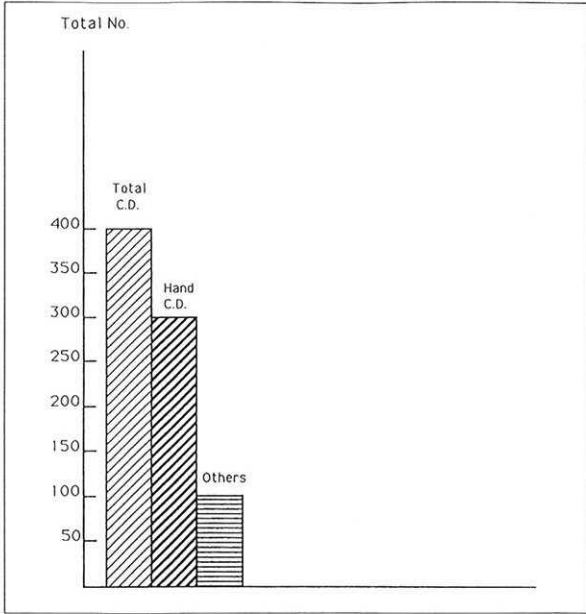


Fig. 1: Contact dermatitis in various parts of the body.

All the patients were subjected to routine urine and stool analysis for ova or parasites. Complete blood count and sedimentation rate were also performed. All the cases were patch tested using the European Standard series of allergens. Trolab Series, and Finn chambers were used. The results were read and interpreted using the I.C.D.G. mode of interpretation after 48 and 96 hours respectively.

**Results**

Out of 8612 total cases, 4893 patients were new. Three hundred and ninety-four cases (89 males and 305 females) were diagnosed as contact dermatitis in various parts of the body. Two hundred and ninety-six cases were diagnosed as C.D. of the hands, of which 66 were males (22.3%) and 230 females (77.7%). Of the above 296 cases, 40% were nationals and 60% were expatriates (Table 1, Fig. 1).

**Table 1.** Total and C.D. patients

Period	Total No. of Cases		Sex		Nationality		C.D. Cases		Hand C.D	
			M	F	Citizen	Non	M	F	National	Non
May-Dec. 1992	8612		4235	4377	4758	3854	394		296	
	New	Old					M	F	National	
	4893	3719					89	305	Cit.	Non
									119	177

Table 2 shows the total number of population in UAE according to the 1988 annual report of the Preventive Health Department, Ministry of Health, Dubai, UAE.

Analysis of the results, revealed that 17 cases (68%) out of the total 25 patients gave positive results to various patch test allergens. Of the above 17 cases, nine patients showed positive results to one allergen (53%). While eight cases (47%) gave positive results to more

**Table 2.** Population by sex and medical district

Medical District	Male	Female	Total
Abu Dhabi	301.1	192.0	493.1
Western	37.1	10.8	47.9
Al Ain	154.7	102.6	257.3
Dubai	308.5	192.6	501.1
Sharjah	180.4	133.2	313.6
Ajman	42.4	34.0	76.4
Umm Al Quwain	15.2	11.8	27.0
Ras Al Khaimah	71.9	57.9	129.8
Fujeirah	34.4	28.2	62.6
Total	1145.7	763.1	1908.8

Population in Thousands.

than one allergen (Fig. 2). Nickel sulfate either alone or in combination with other allergens was found to be the most common sensitizer (68%). Four cases (23.5%) gave positive results to parabens, while three cases (17.6%) showed positive results to perfumes and Balsam or

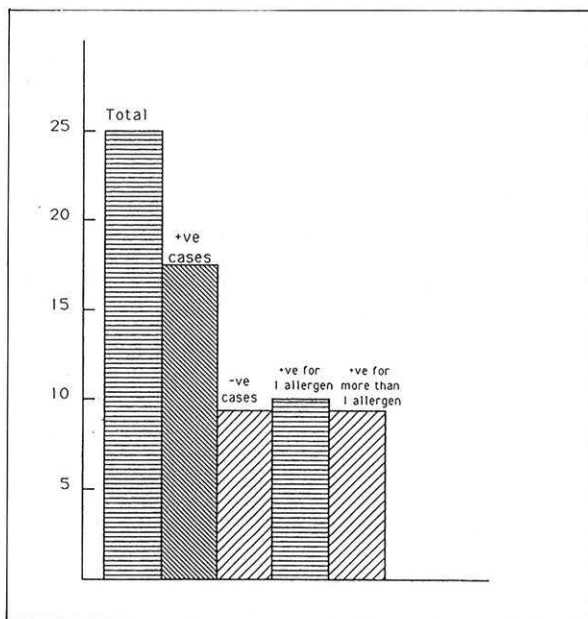


Fig. 2: Results of patch tests.

Peru. Sensitivity to vioform, cobalt, neomycin and epoxy resins was reported only in one case each (5.8%) (Table 3, Fig. 3).

Table 3 shows the distribution of the patients according to nationality. Seven cases of the studied positive group were nationals (41.2%), while 10 cases were expatriates (58.8%).

### Discussion

Dubai is the second major emirate in the UAE, which is one of seven emirates united in 1971. It is situated in the eastern coast of the Arabian Peninsula. It represents one of the main ports on the Arabian Gulf. The weather is characterized by being hot and humid in summer and moderate in the rest of the year. Since the discovery of oil in this part of the world, many people are attracted to work and stay there. Also, civilization and industrialization began in the last three decades. Now, the city represents a cosmopolitan town. The population in Dubai now reaches 423,500. Out of them, 273,900 are males and 149,600 females according to the statistics done in 1988 by the Preventive

Medicine Department of the Ministry of Health in the UAE.

The incidence of C.D. reported in the different parts of the body was found to represent 8.05% of the total dermatological new cases reported (Table 1). Out of these cases, hand C.D. represented 75% of the total cases of C.D. reported (Fig. 1). The female to male ratio was 3:1. Expatriates are more affected than citizens by C.D. From these reported data, C.D. appears to represent one of the more frequently encountered skin diseases in the community. This high incidence of C.D. reported may be explained by the fact that environmental factors, personal factors, industrialization and the changes in the behaviours of the individuals play an important role in the pathogenesis of C.D.<sup>4,5</sup>

Analysis of the results of patch testing in cases of hand C.D. (Table 3), revealed that 68% of the cases showed a positive result. This denotes that not all the cases of hand eczema are allergic in origin. Out of the 17 cases who gave positive results to patch testing, nine patients showed positive results to one allergen (53%), while eight cases gave positive results for more than one allergen (47%).

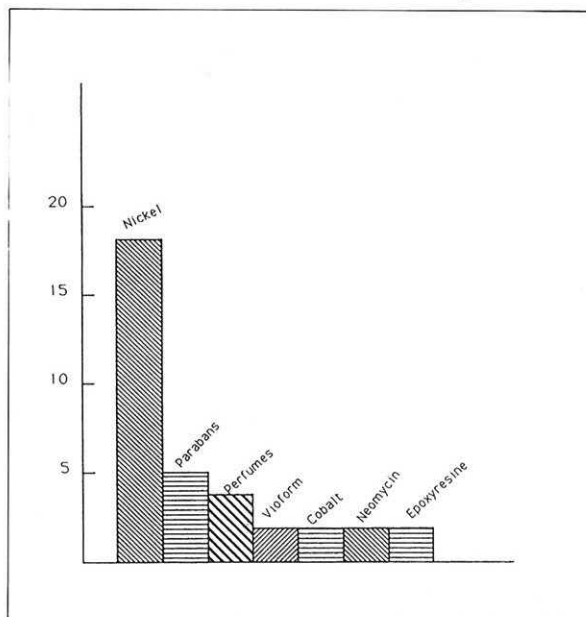


Fig. 3: Positive patch tests to various allergens.

Table 3. Hand Eczema

Case	Age (yr.)	Sex	Nationality	Duration	Job	Result of Patch testing
1	30	F	Philippine	2 years	Housemaid	Nickel and Vioform +++ve
2	28	M	U.A.E	8 years	Policeman	Paraben +++ve
3	20	F	Palestinian	5 years	Housewife	Nickel +++ve
4	16	F	Egypt	4 years	Student	Nickel and Cobalt +++ve
5	20	F	U.A.E.	6 years	Student	Parabens +ve
6	20	F	Sri Lanka	2 years	Housemaid	Nickel +++ve
7	24	F	U.A.E.	3 years	Housewife	Perfume +ve
8	26	F	U.A.E.	2 years	Housewife	Nickel and Neomycin +++ve
9	23	F	Philippine	3 months	Housemaid	Perfume +ve
10	13	F	Egypt	2 years	Student	Nickel and Cobalt +++ve
11	20	F	U.A.E.	2 years	Student	Negative
12	22	F	Palestinian	1 year	Housewife	Negative
13	18	F	U.A.E.	2 years	Student	Nickel and Chrome +ve
14	65	F	U.A.E.	15 years	Housewife	Parabens +ve on 4th day
15	32	F	Egypt	6 years	Housewife	Parabens & Balsam of Peru +ve
16	26	F	U.A.E.	8 years	Housewife	Negative
17	24	F	Egypt	6 years	Housewife	Nickel +ve
18	24	F	Sudan	5 months	Housewife	Negative
19	20	F	U.A.E.	1 year	Student	Negative
20	20	F	U.A.E.	2 years	Student	Negative
21	24	F	Iran	5 years	Housewife	Negative
22	20	F	U.A.E.	6 years	Student	Quinolone & Epoxy Resin +++ve
23	20	F	Sudan	3 years	Housewife	Nickel +ve
24	26	M	U.A.E.	2 weeks	Banker	Negative
25	34	M	India	8 years	Electronic goods Salesman	Balsam of Perfume +++ve

Olumide<sup>5</sup> found that 58.6% showed positive results in Nigeria. Furthermore, some authors

showed an increased incidence of housewife eczema (2.3% up to 9%) during ten years

(1943-1953).<sup>6</sup>

The fact that only three cases of the studied group were men and the others were women (Table 3) is due to the fact that most patients encountered with hand eczema are females that coincide with the general reported incidence of C.D. in Dubai. This reflects the fact that these two groups of women were more exposed to allergens particularly strong detergents, perfumes, soaps and other house born metallic utensils. Also, expatriates (non citizens) were more affected than nationals (Fig. 3).

The highest incidence of sensitivity was found to be due to nickel sulfate either alone or with other sensitizers (52.9%). These results are comparable to those reporting high incidence of nickel sensitivity particularly in women complaining of hand C.D. Others reported a higher incidence to potassium dichromate.<sup>4,7,8</sup> The next common sensitizers found in this study were parabens (23.5%), perfumes and balsam of Peru (17.6%). On the other hand, sensitivity to vioform, cobalt, neomycin and epoxy resins were recorded in one case for each (5.8%). These findings denoted the exposure to these particular chemicals especially after the era of industrialization and civilization and changing the community from a Bedouins to an urban one.

#### **Acknowledgment:**

The authors would like to express their gratitude to Dr. Mohamed Zubair, Dermatologist, Kuwait Hospital, Dubai, for his

contribution in reporting the cases, and they gratefully acknowledge Epitest Co. Finland for the supply of Finn chambers.

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