

ORIGINAL CONTRIBUTIONS

AIR—BORNE CONTACT DERMATITIS IN VARANASI

K K Singh and Gurmohan Singh

Forty six patients suspected to have air-borne contact dermatitis were tested with various plant antigens. Thirteen patients turned out to be sensitive to one or more antigens. The plant antigens, used for testing, were *Parthenium hysterophorus*, *Lantana camara*, *Cynodon dactylon*, *Bougainvlea spectabilis*, *Calotropis procera*, *Argimone mexicana*, *Acacia arabica*, *Azadirachta indica*, *Eucalyptus rostrata*, *Saraka indica*, *Triticum vulgare*, *Triticum aestivum*, *Dryopteris filix*, *Nerium indicum*, *Eclipta alba*, *Mangifera indica*, *Trianthema monogyna*, *Euphorbia hirta*, *Euphorbia thimifolia*, *Amaranthus spinosus*, *Amaranthus viridis*, *Carissa carands*, *Salvia plebia*, *Cyperus rotandus*, *Cassia occidentalis*, *Gynandropsis gynandra*, *Pennisetum typhoides*, *Chenopodium album*, *Nicotiana tobacum*, *Tagetes* sp, *Rosa indica*, *Cestrum nocturnum*, *Helianthus annuus*, *Jasminum samlae*, *Thuja orientalis*, *Cajanus cajan*, *Hibiscus rosasinensis*, *Echinochloa cruss-galli*, *Phaseolus aureus*, *Ricinus communis* and *Alternantheria sessilis*. The maximum positive reactions were elicited by *Parthenium hysterophorus* (30.0%) followed in the order of frequency by *Amaranthus viridis* (10.0%), *Gynandropsis gynandra* (10.0%), *Pennisetum typhoides* (10.0%), *Nerium indicum* (3.9%), *Triticum vulgare* (2.5%) and *Dryopteris filix* (2.5%). Rest of the plant antigens did not show any reaction. The male to female ratio was 5.5 : 1.

Key words : Air-borne contact dermatitis, Plants, *Parthenium hysterophorus*.

Contact dermatitis with plants is fairly common in India. The sensitizing plants impose a serious and sometimes incapacitating problem to the cutaneous health of the community. Various studies on contact dermatitis, at Allahabad, Delhi, Indore and Jodhpur due to plants have been conducted in India.¹ We have made an attempt to detect the common plant allergens in and around Varanasi city.

Materials and Methods

Forty six cases suspected to have air-borne contact dermatitis were selected between January 1983 and January 1984. These cases were having involvement of the face, neck, dorsa of hands, antecubital surfaces, popliteal surfaces

and other susceptible sites, all together, singly or in combination. For the patch testing, antigen-impregnated-discs of a few plants, *Parthenium hysterophorus*, *Lantana camara*, *Cynodon dactylon*, *Bougainvlea spectabilis*, *Calotropis procera*, *Argemone mexicana*, *Acacia arabica*, *Azadirachta indica*, *Eucalyptus rostrata*, *Saraka indica*, *Triticum vulgare*, *Triticum aestivum*, *Dryopteris filix*, *Nerium indicum* and *Mangifera indica*, were obtained from Dr. J.S. Pasricha, New Delhi. Rest of the antigens, were prepared according to the method described by Pasricha.² Patch tests were performed according to the standard procedure.³

Results

In the present study, 41 plants which are common in and around Varanasi were included. Forty six patients (34 males and 12 females) were patch tested, out of which 13 patients (11 males and 2 females) were found to be

From the Department of Dermato-Venereology, Institute of Medical Sciences, Banaras Hindu University, 221 005, India.

Address correspondence to : Dr. K. K. Singh, Department of Skin and STD, KMC, Manipal-576 119, (Karnataka), India.



Fig. 1. Plant of *Parthenium hysterophorus*.

sensitive to one or more plants. The males outnumbered females in a proportion of 5.5:1. There was no case below 10 years or above 70 years. The majority (77%) of patients were in the age range 21 to 50 years.

Positive reactions were obtained with *Parthenium hysterophorus* in 12 (30%) cases, and with *Amaranthus viridis*, *Gynandropsis gynandra*, *Pennisetum typhoides*, *Nerium indicum*, *Triticum vulgare* and *Dryopteris filix* in 1 case each. The remaining plants did not elicit any positive reaction (Table I).

The dermatitis involved many areas, but the sites affected in the maximum number of patients, were folds of neck (9), eye-lids (9), forehead (8),

Table I. Positive patch tests obtained with different plants.

Name of the plant	Number of cases	
	Tested	Positive
<i>Parthenium hysterophorus</i> (Gajar ghas)	40	12(30.0%)
<i>Triticum vulgare</i> (Jau)	40	1(2.5%)
<i>Dryopteris filix</i> (Fern)	40	1(2.5%)
<i>Nerium indicum</i> (Kaner)	26	1(3.9%)
<i>Amaranthus viridis</i> (Jangali chaulai)	10	1(10.0%)
<i>Gynandropsis gynandra</i> (Hurhur)	10	1(10.0%)
<i>Pennisetum typhoides</i> (Bajara)	10	1(10.0%)

naso-labial furrows (7), antecubital (6), popliteal surfaces (6), back of ears (6), V of chest (5), dorsum of the hands (2), dorsum of the feet (1), and front of the legs (1).

Comments

In the present study, *Parthenium hysterophorus* accounted for the largest number of cases of air-borne contact dermatitis as this plant can be very commonly seen in this area. Previous studies^{1,4,5} have also shown *Parthenium hysterophorus* as the commonest cause of contact dermatitis due to plants in other parts of India. Lonkar et al⁵ reported spontaneous resolution in one case.

Tiwari et al⁶ described four clinical patterns of air-borne contact dermatitis, photo-sensitivity, atopic, seborrhoeic and miscellaneous. However, we observed only three of these patterns: (1) the typical air-borne contact dermatitis involving the exposed areas, naso-labial furrows and back of the ear-lobes; (2) features similar to atopic dermatitis, and (3) other patterns. We did not come across the typical photosensitivity pattern.

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