

# Diagnosis of occupational dermatitis by general practitioners and employment medical advisors: a pilot study

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**SUMMARY.** *This pilot study examined how closely general practitioners and employment medical advisors agreed when jointly investigating occupational dermatitis. The criterion for admitting a patient to the study was dermatitis on one or both hands. This presented most commonly among men aged 41–60 years and women aged 21–40 years. There was some reluctance among general practitioners to take part in the study, probably owing to the medico-legal problems associated with this condition. General practitioners and employment medical advisors were equally likely to attribute a case of dermatitis to occupational factors if the patient was employed in industry; but if the patient was in non-industrial employment, general practitioners were more likely to consider the possibility of an occupational origin than employment medical advisors. These differences suggest that before initiating a wider study more information is required concerning the trigger mechanisms for dermatitis on the hands in order to reduce the diagnostic variability.*

## Introduction

**D**ERMATITIS is the most common occupational disease in industrialized countries.<sup>1</sup> Most cases are caused by irritant chemicals although about 10% are caused by allergic sensitization.<sup>2</sup>

There is an extensive literature concerning the chemical nature and mode of irritation by individual agents. In contrast, little has been written about how the problem presents to general practitioners, although many patients consult their family doctor in the first instance. Consequently the criteria for initial diagnosis are poorly defined. Whether a substantial proportion of cases remain unrecognized or indeed whether the condition is over-diagnosed is also unclear. In recent years there has been an improvement in the control of a variety of occupational conditions but dermatitis remains a problem.<sup>3</sup> Its association with litigation<sup>4,5</sup> makes it an unattractive topic for research but the situation at present is far from satisfactory since the prognosis for the condition is poor.<sup>5-7</sup>

Before undertaking a large-scale study to clarify these issues, the Employment Medical Advisory Service approached the Scottish Council of the Royal College of General Practitioners in order to initiate a pilot study. The object of the study was to investigate the extent to which general practitioners and employment medical advisors agreed on the role played by occupational agents in provoking dermatitis on the hands.

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## Method

General practitioners taking part in the study notified the research assistant in the Department of General Practice at the University of Dundee when a patient presented with dermatitis affecting one or both hands. They indicated whether they considered the dermatitis to be occupational in origin and if so, the nature of the responsible agent. Additional information on management choices, the issue of a National Health Insurance certificate, and the patient's perception of the origin of his/her condition was recorded.

The relevant employment medical advisor was informed and he investigated the patients' place of work with particular reference to agents which might be involved. He also interviewed the patients to determine their previous history of allergy and to establish whether they considered the condition to be occupational in origin. This information was recorded without reference to the views of the patients' general practitioner.

## Results

The intention was to recruit eight general practitioners from each of the five Scottish faculties of the Royal College of General Practitioners each of whom was to report five consecutive cases of dermatitis of the hands. However, only 22 practitioners took part, providing case records for 72 patients. Twenty of these patients were not interviewed by the employment medical advisors and in one case the dermatitis started on the body and not on the hands. Consequently satisfactory records were provided for only 51 patients.

The age and sex distribution of the 51 patients is shown in Table 1 and suggests that dermatitis of the hands predominates among women aged 21–40 years and men aged 41–60 years. The 51 patients were distributed between 17 occupations, but these can be considered under two broad headings — 'industrial' and 'service'. Only three occupations could not be classified as they were insufficiently described.

General practitioners were more inclined to attribute the dermatitis to occupational factors than were employment medical advisors (Table 2). They were in full agreement about 55% of cases and partial agreement about 35%. Disagreement was more marked for patients in service occupations than in industrial occupations (Table 3) but both general practitioners and employment medical advisors were more likely to attribute the dermatitis to occupational factors if the patient were employed in industry.

For the nine men in service occupations general practitioners and employment medical advisors did not differ significantly (Fisher's exact test) in their attribution of the cause of dermatitis. They agreed that six of the 18 women in this group had occupa-

**Table 1.** Age and sex distribution of the 51 patients.

| Age (years) | Number of patients |         |
|-------------|--------------------|---------|
|             | Males              | Females |
| <20         | 2                  | 3       |
| 21–40       | 8                  | 18      |
| 41–60       | 10                 | 6       |
| 61+         | 4                  | 0       |

**Table 2.** Attribution of dermatitis to occupational factors for 51 patients: comparison between general practitioners and employment medical advisors.

|                             | Number of patients       |           |                              |
|-----------------------------|--------------------------|-----------|------------------------------|
|                             | Attributed to occupation | Uncertain | Not attributed to occupation |
| General practitioners       | 26                       | 19        | 6                            |
| Employment medical advisors | 22                       | 11        | 18                           |

$\chi^2 = 8.47$ , two degrees of freedom,  $P < 0.02$ .

**Table 3.** Comparison of attribution of dermatitis by occupation of the patients.

|                                    | Number of cases of dermatitis              |   |
|------------------------------------|--|---|
|                                    | Patients in industrial occupation (n = 21) | Patients in service occupation (n = 27) |
| <i>General practitioners</i>       |  |   |
| Attributed to occupation           | 16   | 8                                       |
| Uncertain                          | 5  | 13                                      |
| Not attributed to occupation       | 0  | 6                                       |
| <i>Employment medical advisors</i> |  |   |
| Attributed to occupation           | 13   | 8                                       |
| Uncertain                          | 6  | 5                                       |
| Not attributed to occupation       | 2  | 14                                      |

n = number of patients. General practitioners versus employment medical advisors: industrial group, no significant difference; service group  $\chi^2 = 6.75$ , two degrees of freedom,  $P < 0.05$ .

tional dermatitis but the general practitioners were uncertain about seven of the remaining 12 women while the employment medical advisors were uncertain about only one (Fisher's exact test,  $P = 0.027$ ), suggesting that general practitioners were more inclined to consider this possibility than employment medical advisors.

Four main groups of materials were implicated — detergents, oils, chemicals not in these categories and other materials. The chemicals included hydrocarbon solvents and permanent wave lotion neutralizer while other materials included foodstuffs, newsprint and jute. The number of cases was too small to establish whether the general practitioners and the employment medical advisors agreed on the extent to which these irritants and allergens were implicated.

Thirty one patients had a history of dermatitis and 26 had an allergic condition (hay fever, rhinitis, asthma and allergic conjunctivitis). Twenty-one patients were not receiving any treatment from their general practitioner, 13 were receiving treatment for the dermatitis, 14 for unrelated conditions and three for both skin and other conditions. Only five patients were receiving National Health Insurance benefit. Seven patients had been referred to a hospital outpatients department for specialist attention. The employment medical advisors suggested specialist referral in three cases, two of whom had already been referred. The third patient refused referral when it was offered.

In seven cases the employment medical advisors visited the patient's place of work and they offered advice to a further three patients. In one instance the employment medical advisor offered advice to the practitioner. The employment medical advisors consulted 39 of the patients at their home, seven at their place of work and four in the employment medical advisor's office (place of consultation was not recorded for one patient). One of the seven patients interviewed at work was self-employed

and it appeared that the patients were reluctant to be interviewed at work for fear it might provoke hostility from their employers.

## Discussion

There was a shortfall in the number of general practitioners recruited to the study. Although the reasons for this were not explored formally, the impression from pre-study meetings with potential participants was that the medico-legal aspects of occupational dermatitis made them uneasy. Recruitment to the study was patchy and it seemed most successful when the area study coordinator was well known to potential participants and could argue the case for the study with them. If a wider study is to be considered, a necessary prerequisite would be the appointment of coordinators known to the participants and care would also have to be taken to meet the genuine concerns about the medico-legal problems.

The problem of diagnosis will require further investigation before any further study can be attempted. The similarity in the views of the general practitioners and employment medical advisors about patients employed in industry might reflect a professional bias. Irritants rather than allergy are the commonest cause of occupational dermatitis,<sup>1</sup> although it may not be possible to distinguish between the two on clinical grounds.<sup>2</sup> Thus, a formal description of potential irritants and allergens used at a workplace should be made when a case is identified. In view of the large number of possible agents, the provision of such a list might present logistic difficulties. While it is possible to identify true sensitivity by skin testing, the evidence that a potential irritant is the actual trigger in a specific case may have to remain circumstantial.

The differences between general practitioners and employment medical advisors in attributing dermatitis to service occupations could reflect a bias among the former but it is equally possible that the latter are insufficiently aware of the possibility that occupational dermatitis can be a consequence of non-industrial employment. This is a matter of some importance since, in the future, service employment is likely to account for a higher proportion of jobs than has hitherto been the case.

This pilot study suggests that occupational dermatitis is an area which deserves investigation, first to determine the extent to which irritant chemicals are used in service occupations and secondly to establish whether they are used in sufficient quantities to provoke dermatitis. In view of the discomfort and financial loss that occupational dermatitis causes, the effort would be worthwhile.

## References

- Williamson DM. Occupational skin disorders. *Practitioner* 1982; **226**: 1285-1290.
- Foulds IS. Occupational skin disease. *Practitioner* 1985; **229**: 525-529.
- Newhouse ML. The prevalence of occupational disease. *Ann Occup Hyg* 1976; **19**: 285-292.
- Wilkinson DS. The industrial skin clinic. *Br J Dermatol* 1981; **105** (Suppl 21): 73-77.
- Burrows D. Prognosis and factors influencing prognosis in industrial dermatitis. *Br J Dermatol* 1981; **105** (Suppl 21): 65-70.
- Murray R. The medico-legal jungle. *Clin Exp Dermatol* 1981; **6**: 259-261.
- Keczkes K, Bhate SM, Wyatt EH. The outcome of primary irritant hand dermatitis. *Br J Dermatol* 1983; **109**: 665-668.

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