

complex describes a hallux valgus which touches or overrides the second toe and is associated with an inflamed bursa around the metatarsal joint. Other toe deformities such as overriding and clawing were common but associated with inflammation over joints only in four patients.

Most patients had more than one foot problem; the range was from none to eight problems with a modal value of between three and four problems per patient. Women had significantly more foot problems than men ( $\chi^2$  9.5 (dof=2)  $p < 0.01$ ). The 14 patients with diabetes mellitus or peripheral arterial disease did not have appreciably more foot problems.

### Comment

The patients surveyed had a high prevalence of foot problems and most were unable to attend to their own foot care. Foot disabilities are a common cause of unreported disability in the elderly and are often accepted as an inescapable accompaniment of aging.<sup>4</sup> Careful assessment of foot problems is an important part of the examination of the elderly patient. Problems such as nail cutting, dirt, and maceration could be dealt with easily without skilled training, but many problems require a chiropodist's attention. Chiropody services which are provided on a referral basis should be extended to include both inpatients and outpatients. Despite the emphasis on early mobilisation of these patients only 35 had walking shoes with them in hospital.

<sup>1</sup> Clarke M. *Trouble with feet*. London: G Bell and Sons, 1969. (Institute of Community Studies, occasional paper of social administration No 29.)

<sup>2</sup> Agate J. *The practice of geriatrics*. London: Heinemann Medical Books, 1963.

<sup>3</sup> Helford AC. Foot impairment—an etiological factor in falls in the aged. *J Am Podiatry Assoc* 1966;**56**:326-30.

<sup>4</sup> Williamson J, Stokoe IH, Gray S, *et al.* Old people at home: their unreported needs. *Lancet* 1964;*ii*:1117-20.

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## Asthma in workers manufacturing cephalosporins

Several drugs may cause asthma in those inhaling them during their manufacture. They include ampicillin, benzylpenicillin, 6-aminopenicillanic acid,<sup>1</sup> methyl dopa,<sup>2</sup> intermediates in the manufacture of salbutamol,<sup>3</sup> and cimetidine.<sup>4</sup> We report two cases of asthma caused by exposure to cephalosporins.

### Case reports

#### CASE 1

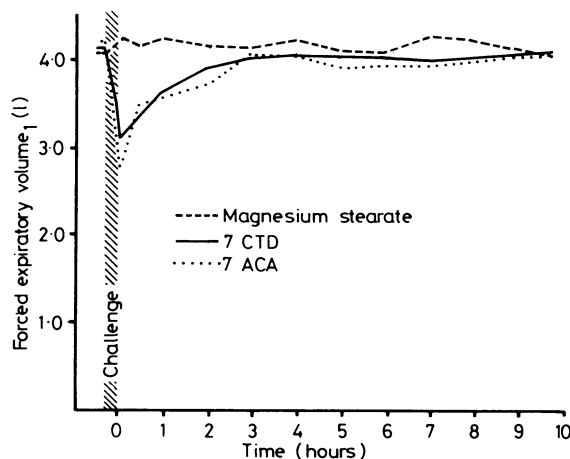
A 35-year-old production research chemist had for two years had a dry irritating cough which improved when away from work. He had also had short-lived attacks of sneezing and chest tightness when weighing out small quantities of 7-aminocephalosporanic acid (7ACA) and its tosylate dihydrate derivative (7CTD). He had no history of asthma, rhinitis, or eczema but skin-prick tests were positive to cat, housedust, and house-dust mite extracts.

Bronchial provocation testing was carried out. The patient weighed 50 g amounts of 7ACA and 7CTD. This reproduced his symptoms and provoked immediate falls in forced expiratory volume in 1s (figure). No reactions were provoked by challenge with cephalixin powder or a control challenge with magnesium stearate. Skin-prick test results were positive to solutions of 7ACA and 7CTD at dilutions of 1 g/l but negative to cephalixin at 10 g/l.

#### CASE 2

A 36-year-old production worker had been intermittently exposed to cephalixin over 10 years before starting work on a process in which cephalixin monohydrate powder was dried. An airline hood was provided for this work but he did not always wear it. After one month he developed

tightness in the chest and breathlessness, which resolved spontaneously during a two-week absence from work but recurred shortly after his return while donning overalls contaminated with cephalixin. These symptoms also resolved spontaneously, but on returning to work 10 days later he had an anaphylactic reaction and was admitted to hospital. He returned to work only once, when he developed chest tightness after spending 20 minutes in the canteen. He had no history of asthma, rhinitis, or eczema but a skin-prick test result with grass pollen extract was positive.



Immediate asthmatic reaction resulting from five minutes exposure to dust created by weighing 50 g of 7ACA and 7CTD.

Bronchial provocation testing was carried out. Cephalixin disolvate 1 mg diluted in 250 g of lactose was tipped between trays for 30 minutes. On the first occasion this provoked a 16% immediate fall in forced expiratory volume in 1s; a 30% fall occurred when the test was repeated. Challenge with cephalixin monohydrate 2 mg in 250 g of lactose for five minutes provoked a 30% immediate fall in forced expiratory volume in 1s. He did not react to control challenge with lactose. Skin-prick tests to cephalixin disolvate and monohydrate at a dilution of 0.1 mg/l elicited immediate reactions.

Atopic and non-atopic hospital staff unexposed to cephalosporins had negative skin-prick test results to solutions used in the above cases.

### Comment

In both cases asthmatic reactions were provoked by exposure to a variety of cephalosporin products. Both cases recovered completely when removed from further exposure, but in the second case further occupational exposure could prove hazardous.

The incidence of sensitisation to cephalosporins among exposed workers is unknown. Both our patients were atopic with positive skin-prick tests results to one or more common inhalant allergens, but neither had had eczema, hayfever, or asthma. It is not possible to determine from this information whether atopic workers are at increased risk of sensitisation, or to comment on the value of skin-prick tests to cephalosporins in diagnosing disease. These questions will be answered only by epidemiological studies of exposed workforces.

<sup>1</sup> Davies RJ, Hendrick DJ, Pepys J. Asthma due to inhaled agents: ampicillin, benzyl penicillin, 6 amino penicillanic acid and related substances. *Clin Allergy* 1974;**4**:227-47.

<sup>2</sup> Harries MG, Newman Taylor AJ, Wooden A, MacAuslan A. Bronchial asthma due to alpha-methyl dopa. *Br Med J* 1979;*iii*:1461.

<sup>3</sup> Fawcett IW, Pepys J, Erooga MA. Asthma due to "glycyl compound" powder—an intermediate in production of salbutamol. *Clin Allergy* 1976;**6**:405-9.

<sup>4</sup> Dally MB, Coutts II, Burge PS, *et al.* Respiratory sensitisation in cimetidine workers. *Thorax* 1980;**35**:716.

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