(range 20-70; 58 men, 42 women). All patients and controls were Caucasians born in Britain. The patients had predominantly normal plasma creatinine concentrations (mean $\pm$ 1 SD: 120 $\pm$ 50 μ mol/l (1.4 mg/100 ml)) and creatinine clearance (89 $\pm$ 42 l/24 h). None had ever undergone haemodialysis or renal transplantation. Eleven patients had received corticosteroids or cyclophosphamide one to 10 years before screening for hepatitis antigen. Surface antigen (HBsAg) was detected by passive haemagglutination; surface antibody (anti-HBs) and core antibody (anti-HBc) were detected by immunoelectro-osmophoresis confirmed by immunodiffusion with sample concentration in the event of weak reaction; this test detected antibodies of the IgG class.

The table shows the prevalence of HBsAg, anti-HBs, and anti-HBc in patients with various types of glomerulonephritis and in the 100 controls.

Histological varieties of glomerulonephritis associated with positive test for hepatitis B in serum. Results for controls are also shown

Type of glomerulonephritis	No studied	No of cases in which test was positive for:		
		HBsAg + anti-HBc	Anti-HBs	Anti-HBc alone
Minimal change	15	0	0	0
Membranous	28	1	0	1
Mesangiocapillary . . .	20	1	0	0
Henoch-Schönlein . . .	15	0	0	0
IgA-IgG	20	0	0	0
Non-specific focal, segmental, or diffuse proliferative . . .	60	0	0	2
Total	158	2	0	3
Controls	100	0	1	2*

*Very weakly positive for anti-HBc.

Comment

The evidence that hepatitis B is a cause of glomerulonephritis rests on the coincidence of hepatitis carriage and glomerulonephritis in series from central Europe and Japan^{2,3} and the presence of immune complexes containing antigens associated with hepatitis B (usually HBsAg) in the glomeruli of affected patients.⁴

The presence of such complexes in the glomerulus does not prove that they are the cause of the disease; non-pathogenic complexes may be caught up in glomeruli damaged by other mechanisms. Nevertheless, the strong association between hepatitis B carriage and membranous nephropathy suggests that the latter is a specific response to the virus.

In our series the prevalence of chronic hepatitis B infection indicated by the presence of HBsAg in the blood was 1.3%, which is significantly greater ($p < 0.01$) than the 0.1% prevalence in the population of the United Kingdom, judged by a survey of 86 182 blood donors.⁵

Of our own patients, one had HBsAg in his serum during the onset of symptoms of glomerulonephritis and the other was not tested for HBsAg until about one year after the onset. Therefore we cannot say in his case that the hepatitis carriage preceded the onset of glomerulonephritis. Both patients with persistent HBsAg also had anti-HBc in the serum.

The presence of persistent anti-HBc of the IgG class, in the absence of HBsAg detectable by a sensitive technique, probably indicates recovery from a previous attack of hepatitis B. The prevalence of anti-HBc in our series of patients with glomerulonephritis (three cases) was not significantly greater than that in the control population (two cases) and was less than that found in the staff of the renal unit. A few more patients might have been found to have evidence of present or past hepatitis infection if we had used radioimmunoassay for the detection of all the hepatitis markers, but this comment applies with equal force to the control series. Our observations do not suggest that a past episode of infection with hepatitis B is a common precipitant of chronic glomerulonephritis.

We conclude that hepatitis B, although a probable cause of glomerulonephritis in communities in which carriage is common, is a rare cause of glomerulonephritis in Great Britain. Nevertheless, the introduction of hepatitis into a renal unit is of such importance that it remains mandatory for every patient to be tested for HBsAg before starting any form of replacement therapy.

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Foot problems of the elderly: a hospital survey

Foot problems may cause elderly people much disability. A survey of adults of all ages indicated that foot problems were common and often painful.¹ Painful or deformed feet may produce abnormalities of gait² and they may also contribute to falls in elderly people.³ We conducted this study to establish the prevalence and nature of foot problems among patients in our acute geriatric assessment and rehabilitation wards.

Patients, methods, and results

One hundred patients (70 women, 30 men) in four wards were studied. The age range was 64 to 97 years with a mean age of 81. A questionnaire was used to determine the patients' ability to walk, their previous use of chiropody services, whether they could cut their own toenails, and whether their feet were painful. Patients' answers were confirmed by nursing staff or relatives. Footwear was inspected for suitability and abnormal wear, and the feet were examined.

Distribution of foot problems in 100 elderly patients

	No of patients
Nails:	
Toenail cutting	66
Onychogryphosis	38
Ingrowing toenail	9
Skin:	
Pitting oedema	49
Corns/callosities	30
Tender corns/callosities	15
Maceration between toes	27
Ulcers	18
Dirt between toes	12
Joints:	
Toe deformities	39
Bunion complex	29
Inflamed toes	4

Nineteen patients complained of painful feet, but these patients did not have appreciably more foot problems. Only 11 patients could cut their own toenails and 35 had walking shoes with them in hospital. Only one patient had no problems with her feet, and a further five patients had toe deformities only. Four patients required toenail cutting only, and eight needed toenail cutting and had uncomplicated toe deformities. A further 54 patients who needed toenail cutting had more serious additional foot abnormalities. The table shows the prevalence of problems. Of the 38 patients with onychogryphosis 17 (45%) were being treated by a chiropodist either at home or in hospital. Two patients with ingrowing toenails were being treated by the hospital chiropodist. No patient with corns or callosities was receiving treatment, though 15 had painful lesions. Ulcers (most commonly on the heel) were treated by nursing staff. Pitting oedema, though common, interfered with wearing footwear only in a small minority of patients. Bunion

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 (χ^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.⁴ 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.

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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-amino-penicillanic acid,¹ methylidopa,² intermediates in the manufacture of salbutamol,³ and cimetidine.⁴ 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.

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