Prospective study of body mass index in patients with coeliac disease

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Population screening suggests that coeliac disease is much commoner than previously supposed. The prevalence of biopsy proved classic coeliac disease, with subtotal or total villous atrophy of the small bowel, ranges from 1:150 to 1:300 in adults in western Europe[1 2] and many patients have mild symptoms. We noticed that few of our new patients with coeliac disease were obviously malnourished and conducted a prospective study of body mass index to investigate further.

Patients, methods, and results

Over a period of 26 months 50 adult patients (age 16-64 years) were diagnosed as having uncomplicated coeliac disease by WD in this district general hospital (catchment population around 160 000). Seven patients aged ≥65 years who received a diagnosis during this period were excluded from the study. Patients had subtotal or total villous atrophy with lymphocytic infiltrate on duodenal biopsy. Biopsy had been prompted by one or more of strong clinical suspicion, serum IgA endomysial antibody (present in 48 patients), or visible endoscopic duodenal abnormalities during routine upper gastrointestinal endoscopy. Thirty five patients were women. Eighteen patients presented with diarrhoea; the primary indications for investigation in the others were anaemia without gastrointestinal symptoms (7 patients), nausea or reflux with characteristic changes seen in the duodenum during upper gastrointestinal endoscopy (7), dermatitis herpetiformis (5), abdominal pain (5), arthralgia (4), fatigue without anaemia (3), and osteomalacia (1). Weight (kg) and height (m) were measured during first attendance at the dietetic department for calculation of body mass index (weight(kg)/(height(m)^2)). Patients were classified as underweight, normal, and overweight according to ranges defined by Garrow.[3]

Eleven patients were underweight (body mass index <20), 22 were within the normal range (20-24.9), and 17 were overweight (≥25). Only one of the 15 men (7%) was underweight compared with 10 of the 35 women (29%); 10 men (67%) and 7 women (20%) were overweight. Three of the 17 overweight patients (two women, one man) had a body mass index of ≥30. Clinical characteristics did not differ significantly between men and women, but men had a significantly higher body mass index (table). In all 50 patients a history of diarrhoea or anaemia was not associated with a body mass index <20.

Body mass index and characteristics of men and women studied

	Women (n=35)	Men (n=15)	P value
Mean age (95% CI)	44 (16 to 64)	42 (14 to 57)	0.69*
Body mass index (95% CI)	23.2 (21.7 to 24.6)	26.0 (24.1 to 28.0)	0.02*
No (%) of patients with anaemia	8 (23)	4 (27)	1.00†
No (%) of patients with diarrhoea	12 (34)	6 (40)	0.75†

*Mann-Whitney U test.
†Fisher's exact test.

Comment

Although age and sex specific reference ranges for body mass index are available, we applied the ranges given to patients aged from late teens to early 60s by Garrow[3]; these ranges form the basis of acceptable values in widespread use. By these criteria, men had a significantly higher mean body mass index than women, although the two sexes had no obvious clinical differences. Less than a third of women with untreated coeliac disease was underweight and a fifth was overweight, while two thirds of men were overweight. In contrast, Ciacci et al found that, although coeliac symptoms were more severe and of earlier onset in women, body mass index was not significantly different in men and women.[4] A milder manifestation of the disease, irrespective of whether this is expressed as symptoms or as higher body mass index, would explain the low proportion of men in most clinical series.

Our study suggests that a minority of patients with villous atrophy fit the obviously malnourished stereotype and that the possibility of coeliac disease should not be discounted in overweight patients. Many patients with gluten sensitivity have less severe small bowel damage[5] and may be even less likely to be underweight.

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Drug points

Facial vasculitic rash associated with intravenous immunoglobulin

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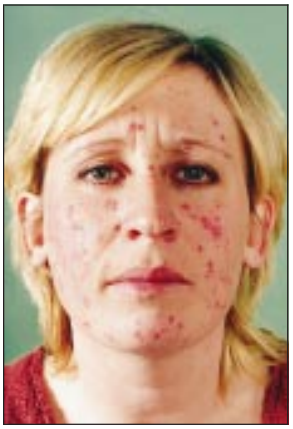
We report a case of facial vasculitic rash associated with intravenous immunoglobulin to show that intravenous immunoglobulin should be added to the list of drugs that can precipitate cutaneous vasculitis.

A 30 year old woman presented with an 18 month history of slowly progressive dysaesthesia of her arms and legs and weakness of her feet and hands. She was not taking any drugs and did not have a history of atopy or rashes. Chronic inflammatory demyelinating polyneuropathy was confirmed electromyelographically. Erythrocyte sedimentation rate, C reactive protein, thyroid function, blood glucose concentration, serum vitamin B-12 concentration, results of protein electrophoresis, cerebrospinal fluid constituents, results of syphilis serology, urinary porphyrin concentrations, and concentrations of antinuclear antibody, extractable nuclear antigen antibodies, neutrophil cytoplasmic antibody, and ganglioside antibody were all normal or negative. She was treated with intravenous human immunoglobulin (Sandoglobulin) 0.4 g/kg/day for five days.

On the third day of treatment she developed an itchy papular facial rash, which deteriorated over the next week, extending to her upper back and palms. Some lesions developed non-blanching purpura and others painful superficial skin necrosis (figure). She was not feverish and was systemically well. Urine analysis gave negative results. A skin biopsy specimen showed a leucocytoclastic vasculitis and no granulomata. The rash resolved with clobetasone butyrate cream (Eumovate) twice a day and cetirizine 10 mg daily for a week, leaving a few areas of scarring. The rash did not recur over the next six months. In view of the severity of the reaction, rechallenge was not considered to be ethical.



Facial cutaneous vasculitis with intravenous immunoglobulin. Reproduced with patient's permission

To our knowledge, chronic inflammatory demyelinating polyneuropathy is not associated with cutaneous vasculitis. However, a range of skin reactions has been described with intravenous immunoglobulin, including urticaria, maculopapular rashes, petechiae, eczema,[1 2] erythema multiforme,[3] and alopecia,[4] with an incidence of 6% in one series.[1] At the time of writing, we knew of only one other published report of vasculitis associated with immunoglobulin infusion in a patient with systemic lupus erythematosus, and in this case the primary condition may also have been implicated.[5] We know of another patient who was treated with intravenous immunoglobulin and developed vasculitis, from which the patient made a full recovery (Committee on Safety of Medicines, personal communication).

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Fever associated with cyclosporin for treating atopic dermatitis

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Cyclosporin is a fungal metabolite widely used in preventing graft rejection after tissue transplantation and in treating severe atopic dermatitis and psoriasis. It is a potent immunosuppressant, with its beneficial effects being attributed to the inhibition of T cell activation and interleukin 2 production.[1] At the time of writing, three cases of fever associated with cyclosporin had been reported to the Committee on Safety of Medicines, but, to our knowledge, none has been published in the medical literature.[2 3] We report an isolated case of fever associated with cyclosporin treatment.

A 31 year old woman with severe atopic dermatitis was given cyclosporin (Neoral) 4 mg/kg at a total dose of 250 mg/day. One month after starting treatment she reported developing a fever of 38-39°C within two hours after taking each dose of the drug. She was admitted to monitor her response to cyclosporin. Apart from signs of atopic dermatitis, physical examination did not find anything remarkable and there was no evidence of systemic infection. Other treatment consisted of topical cetomacrogol. Full blood count and renal and liver function were within normal limits. Ninety minutes after oral administration of 250 mg cyclosporin she developed a fever of 39.2°C, which settled spontaneously over one hour. There were no associated changes in heart rate or blood pressure. Cyclosporin treatment was discontinued and she experienced no further episodes of unexplained fever.

Fever arising in a patient taking cyclosporin could imply the development of infection in an immunosuppressed host. This report shows that drug induced fever should also be considered.

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