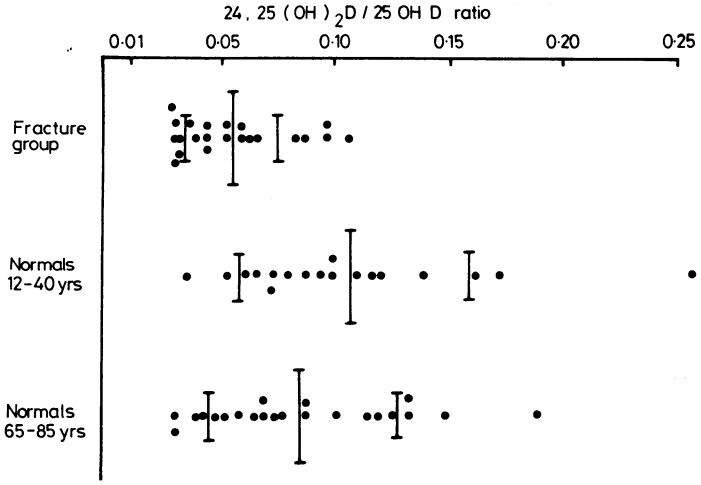
32·4±10·2 years) and 22 elderly (mean age 76·2±9·4 years) people. Neither patients nor controls had any malabsorption, hepatic, or renal disease and were not taking barbiturates or anticonvulsants. All sera were collected from December 1977 to March 1978. Serum creatinine concentrations were <150 μmol/l (<1·5 mg/100 ml) in all subjects except one patient in whom it was <210 μmol/l (<2·1 mg/100 ml). One patient had hypocalcaemia and another had hypophosphataemia.

The mean (±SD) serum concentrations of 24,25(OH)$_2$D and 25-OHD were significantly (P<0·01) lower in patients with femoral fracture (1·37±0·52 nmol/l (0·55±0·21 ng/ml) and 27·0±9·2 nmol/l (10·8±3·7 ng/ml) respectively) and in elderly controls (1·87±1·22 nmol/l (0·75±0·49 ng/ml) and 24·5±14·0 nmol/l (9·8±5·6 ng/ml) respectively) than in young controls (5·82±2·75 nmol/l (2·33±1·10 ng/ml) and 58·0±21·2 nmol/l (23·2±8·5 ng/ml) respectively). No significant differences in mean serum 25-OHD and 24,25(OH)$_2$D were found between the fracture group and elderly controls.



Serum 24,25(OH)$_2$D: 25-OHD ratios in patients with proximal femoral fracture compared with elderly and young controls (solid lines = mean ± SD).

Serum 24,25(OH)$_2$D was undetectable (<1·0 nmol/l (<0·39 ng/ml)) in 19 (43·1%) out of 44 patients and elderly controls. The mean serum 24,25(OH)$_2$D: 25-OHD ratio was significantly lower in the fracture group than in either young (P<0·01) or elderly (P<0·05) controls (see figure).

Comment

This study shows that serum concentrations of 24,25(OH)$_2$D are undetectable or very low in patients with fracture of the proximal femur. Furthermore, the decreased serum 24,25(OH)$_2$D: 25-OHD ratio in these patients indicates that serum 24,25(OH)$_2$D concentrations are relatively low for the respective serum 25-OHD values. Nutritional osteomalacia will first develop at serum 25-OHD concentrations lower than 12·5 nmol/l (5·0 ng/ml). In our study, however, serum 24,25(OH)$_2$D concentrations were undetectable or extremely low in 7 out of 14 (50%) patients with femoral neck fracture in whom the serum 25-OHD concentrations were above 25·0 nmol/l (10·0 ng/ml). Therefore the steep rise in femoral neck fracture with advancing age cannot be explained by low serum 25-OHD concentrations. It probably results from a decline in renal ability to convert 25-OHD to its active metabolites 24,25(OH)$_2$D and, probably, 1,25(OH)$_2$D. The basic and best known function of 1,25(OH)$_2$D is to stimulate intestinal calcium transport. Edelstein *et al*[3] have shown the importance of 24,25(OH)$_2$D in normal bone mineralisation and structure, and Kanis *et al*[5] showed that calcium retention improved in anephric patients treated with 24,25(OH)$_2$D. Thus impaired conversion of 25-OHD to its active dihydroxy-metabolites could be responsible for the progressive decline in calcium absorption[1] and change in normal bone mineralisation in elderly people. The low vitamin D concentrations in our elderly controls suggests that elderly people are susceptible to osteomalacia and fracture of the proximal femur even in sunny climates. A tendency to be house-bound together with inadequate dietary intake are probably the major contributing factors. We also investigated a younger group (mean age 62·1±10·2 years) of 17 patients with vertebral osteoporosis. Their mean concentrations of serum 25-OHD (82·8±35·6 nmol/l (20·7±8·9 ng/ml)), 24,25(OH)$_2$D (6·8±3·36 nmol/l (1·70±0·84 ng/ml)), and 24,25(OH)$_2$D: 25-OHD ratio (0·086±0·04) were similar to those in the young controls (unpublished). This indicates that elderly patients with fracture of the proximal femur probably differ from patients with vertebral osteoporosis in their vitamin D state and metabolism.

We thank Dr R Schen for referring the elderly controls and Mrs Z Eisenberg for technical aid.

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Communication with Asian diabetics

To achieve optimum control the diabetic needs education about diet, about the use of insulin, and on how to avoid problems. Asians pose special problems because of differences in diet, language, and customs. Several Asian diabetics attend Dudley Road Hospital, and efforts to improve communication have included the distribution of literature and erection of signs in Asian. We conducted a small survey to assess the impact of these measures in our diabetic clinic.

Patients, methods, and results

Two Asian-speaking medical students assessed the ability to read and write English and native language among Asian patients and their relatives. A standard questionnaire was used. We thought that some patients might falsely claim to be literate and so we asked whether multilingual signs prominently displayed in the hospital had been seen. These should be immediately obvious to literate Asians.

Seventy-seven diabetics had Asian origins and native language (see table). Most (59) were Punjabi-speaking Sikhs from India who had lived in Britain for an average of 15 years (range 10 months to 23 years, based on information from 45 patients). There were 43 men and 34 women. The patients' ages ranged from 17 to 75 years, with most (63) aged 30 to 60. Fifty-eight of the patients were not dependent on insulin.

Forty patients were illiterate in both their native language and English and 26 claimed literacy in their native language alone. Sixty-two households had a person literate in English who could communicate verbally, if sometimes imperfectly, in Asian without necessarily being able to read or write it. None of the women could read or write English. Only six patients had noticed the Asian signs despite 26 claiming literacy in their native language. Four patients thought them useful but only one was illiterate in English. Sixty-eight patients had received a diet sheet—53 in English, four in their native language, and 11 in both English and the native language. Thirty-eight of the 53 receiving

Nationality and language of 77 Asian diabetics

	Men	Women	Total
Nationality			
Indian	32	27	59
Pakistani	2	1	3
Bangladeshi	4	1	5
African Asians	5	5	10
Language			
Punjabi	33	29	62
Gujerati	3	3	6
Bengali	4	1	5
Urdu	3	1	4

a diet sheet in English had had the diet satisfactorily explained compared with three out of four who received a sheet in the native language and seven out of the 11 who received a sheet in both languages. Therefore 48 of those given diet sheets had them satisfactorily explained—the same proportion as had altered their eating habits.

Comment

This survey raises some interesting problems about communication with Asian diabetics. For two years our dietitians have not distributed diet sheets in Asian (available in Punjabi, Gujerati, Hindi) unless they were certain of the patient's literacy. Over this period only 12 diet sheets in Asian were distributed among 216 patients. This and the small proportion of patients who noticed the multilingual signs suggest that the claimed literacy rate may be exaggerated.

Twenty-eight per cent of those given diet sheets in English and 36% of those given both English and Asian diet sheets modified their diet when a satisfactory translation was obtained. Improved communication might lead to better adherence to diet, but Asian women usually cook for the family and have a high illiteracy rate so that dietary modification presents particular problems. The encouraging fact that two-thirds of patients tested their urine and most recorded results probably reflects the verbal teaching, the simple method, and the use of interpreters.

Our data suggest that patient education could be improved by better communication and to this end we are producing a film dubbed in Asian languages for use in a diabetic clinic.

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Psychomimetic effects of pentazocine and dihydrocodeine tartrate

Psychomimetic disturbances such as hallucinations, euphoria, and vivid dreams have been reported after taking pentazocine,[1-3] but their incidence with this or other commonly used analgesics is unknown.[4] This study aims to assess the frequency of perceptual disturbances after the administration of pentazocine or dihydrocodeine.

Patients, methods, and results

General medical and surgical patients in Aberdeen hospitals who had taken pentazocine or dihydrocodeine were included in the study. We tried to find a control group of patients similar in age, sex, and diagnoses and who had received any drug other than pentazocine or dihydrocodeine. Patients taking pentazocine and dihydrocodeine, identified in a standard drug record,[5] were interviewed to determine details of drugs they had taken that day. They were interviewed again within 15-22 hours of taking the chosen dose of pentazocine or dihydrocodeine by one of two other investigators (JFD, SCG) who had no knowledge of the drug given. Control patients had identical interviews. The interviews concentrated on the chosen dose of the drug and included questions on common side effects and psychomimetic phenomena as well as "dummy" questions. Further details about each patient including concurrent drugs, diagnoses, height, weight, serum bilirubin, and urea were then recorded. Seventy-seven patients taking pentazocine or dihydrocodeine on a second occasion were reinterviewed. Patients who gave unreliable histories and those with impaired hepatic or renal function were excluded.

Out of the 407 patients interviewed, 105 (58 men, 47 women) had taken pentazocine and 112 (61 men, 51 women) dihydrocodeine: 190 controls were also interviewed, and 71 patients on pentazocine and 93 on dihydrocodeine were matched with suitable controls. A further 26 potential controls could not be used because of rare diagnoses in patients taking pentazocine or dihydrocodeine. Patients taking pentazocine had significantly more hallucinations than their matched controls (see table). Overall, 10 patients (8 men) taking pentazocine had a major disturbance as compared with five (2 men) taking dihydrocodeine and two in the control group. The commonest phenomena were sensations of floating and auditory and visual hallucinations. A further 10 patients on pentazocine (5 men) and four patients (3 men) on dihydrocodeine had remarkably vivid dreams compared with four of the 190 controls. The chosen dose was usually the first dose to be given. There was no difference between the three groups in this respect. Of the 77 patients who were reinterviewed, two (men) of the 28 receiving pentazocine and one of the 49 receiving dihydrocodeine had hallucinations, which they had not had when first given the drug. Five of the 17 patients who had had a major disturbance were among the 77 who were reinterviewed. Only one of them had a mild disturbance on the second occasion.

The drugs were given in the usually recommended doses, and no relationship was observed between the occurrence of phenomena and the route or frequency of administration or the dose. Out of 484 blind interviews one investigator conducted 274, identifying nine episodes, the other 210, identifying eight episodes. A wide range of concurrent drugs was prescribed for the three groups but no bias arising from their potential effects was evident.

Comment

In this study 10% of patients taking pentazocine had a major psychomimetic disturbance while a further 10% had vivid dreams: 4% of patients taking dihydrocodeine had a psychomimetic disturbance and a further 4% had disturbed dreams. Two controls (1%) had a hallucination and a further 2% had disturbed dreams. Psychomimetic phenomena are difficult to identify. Patients may fail or be reluctant to report a strange experience. Doctors may fail to relate a disturbance to concurrent therapy. Pleasant hallucinations may increase the potential for drug abuse. Therefore the possibility of such phenomena occurring in patients taking analgesics should be remembered.

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Incidence of hallucinations in patients taking pentazocine and in patients taking dihydrocodeine compared with incidence in patients taking a control drug

	Pentazocine	Controls	Significance of differences	Dihydrocodeine	Controls	Significance of differences
Matched pairs:						
No in groups	71	71	SE = 5·31	93	93	
No with hallucinations	8		P = 0·003	4	2	Not significant
Unmatched patients:						
No in group	34			19		
No with hallucinations	2			1		