

also occurred in the four weeks after active treatment was stopped than in the four weeks after placebo treatment ($P < 0.05$).

None of the order effects was found to be significant.

Comment

The therapeutic effect of Mysteclin syrup clearly exceeded the consistent, small improvement seen with placebo. Topical steroid preparations are the other main form of treatment for apthous ulcers, but these need to be started at the prodromal stage, before frank ulceration develops, and dosage must be carefully restricted to avoid systemic effects. Our findings show that Mysteclin is efficacious irrespective of the phase of the disorder and suggest that the improvement is maintained for at

least four weeks after treatment is stopped. Further work will determine whether complete remission can be produced by prolonging treatment enough to eliminate the bacteria responsible for putative antigenic cross-reactions.

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SHORT REPORTS

High-density-lipoprotein cholesterol in the Maasai of East Africa: a cautionary note

The Maasai are a Nilo-Hamitic tribe well known for their low incidence of cardiovascular disease.¹ Many reports have shown high serum cholesterol concentrations to be related to an increased risk of coronary artery disease, and the Maasai were found to have a significantly lower mean serum cholesterol concentration than an age-matched group of Europeans.² It has recently been suggested that high-density lipoproteins (HDLs) have an inverse relation to the risk of coronary artery disease.³ We have compared the concentrations of HDL cholesterol in the Maasai with those in a group of healthy men attending a screening centre in London.

Subjects, methods, and results

Blood samples were taken from 37 tribal and 20 non-tribal Maasai men living in Southern Kenya in August 1977, and from 317 European men attending for routine health screening in London in August 1978. The total serum cholesterol (TC) concentrations of the Maasai were estimated by Searle Laboratories using a Lieberman-Burchard method without extraction, whereas those of the Europeans were measured at the Radcliffe Infirmary, Oxford, using the same method but with extraction. All HDL samples were measured in Oxford with a heparin-manganese precipitation method. The Maasai HDL samples were stored at -20°C for six months before analysis. To allow for the non-comparability of cholesterol measurements between Maasai and Europeans, a correction factor based on the correlation between measurements made at the two laboratories was applied to the cholesterol value of each of the Maasai. There were no significant differences between tribal and non-tribal Maasai in mean HDL concentration, total cholesterol concentration, or HDL:TC ratio. The results were therefore combined to form a single Maasai sample.

The mean serum HDL concentration in the Maasai was significantly lower than in the Europeans (table). As the mean serum cholesterol concentration was also significantly lower, however, the HDL:TC ratio did not differ significantly between the two groups.

Comment

In view of the reported inverse association between HDL and coronary heart disease we were surprised to find such low HDL values in the Maasai. Even when the low total serum cholesterol

Mean (\pm SD) serum high-density lipoprotein (HDL) and total cholesterol (TC) concentrations and HDL:TC ratios in populations studied

| | HDL (mmol/l) | TC (mmol/l) | HDL:TC ratio (%) |
|---------------------|------------------|------------------|-----------------------|
| Maasai (n = 57) | 1.05 \pm 0.31 | 4.77 \pm 0.81 | 22.63 \pm 7.71 |
| Europeans (n = 317) | 1.40 \pm 0.29* | 6.21 \pm 1.14* | 23.34 \pm 6.77 (NS) |

*Significance of difference between means (t test): $P < 0.001$.
NS = Not significant.

Conversion: SI to traditional units—HDL and TC: 1 mmol/l \approx 38.6 mg/100 ml.

concentrations of the Maasai were taken into account by considering the ratio of HDL to total cholesterol, there was no significant difference between the Maasai and Europeans. The values reported here are much lower than those found in Nigerian men⁴ and rural black South Africans,⁵ whose mean HDL:TC ratios are about twice that found in the Maasai. Further work on populations with differing incidences of heart disease is thus required, but at present it seems that the relation between coronary heart disease and indices such as HDL or the HDL:TC ratio is far from straightforward.

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Unprocessed bran causing intestinal obstruction

Unprocessed bran has been widely advocated by the medical profession and the lay press for the management of constipation, the irritable colon syndrome, and diverticular disease. We report a patient who developed intestinal obstruction due to excessive intake of bran.

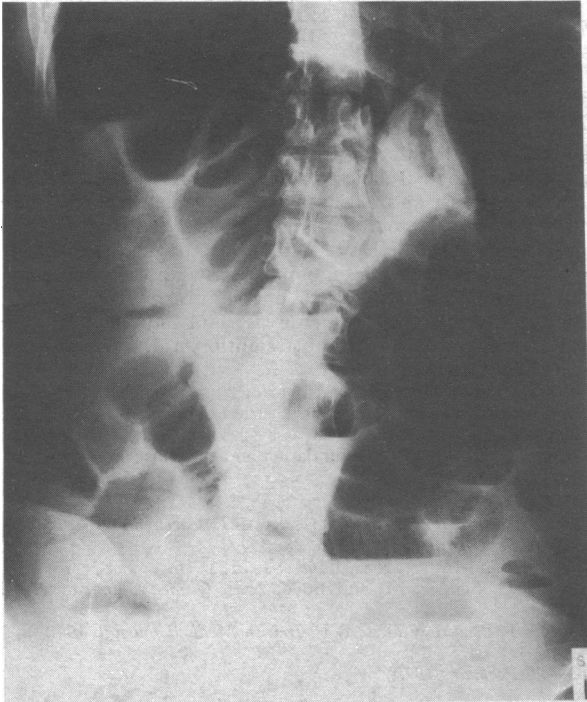
Case report

A 53-year-old housewife was admitted to hospital complaining of nausea, cramping abdominal pains, distension, and incontinence of faeces for three days. She had a 20-year history of chronic anxiety requiring treatment with imipramine in doses of up to 150 mg/day. Over this period she had had chronic constipation for which she took two Coloxyl with Danthron tablets (dioctyl sodium sulphosuccinate 50 mg with 1,8-dihydroxy anthraquinone 50 mg) nightly.

A year before admission she began taking about 20 g/day of unprocessed bran. Subsequent improvement in her bowel actions encouraged her to increase her intake progressively, culminating in consumption of 160-200 g/

day in the six months before admission to hospital. At the same time she reduced her aperient tablets, and one month before admission she stopped taking them altogether. Cessation of purgatives was followed by an episode of severe constipation which required admission to her local hospital for treatment by rectal wash-out. After discharge the patient continued to take large doses of bran without laxatives until rectal impaction by huge quantities of bran resulted in symptoms of intestinal obstruction.

On admission to hospital there was pronounced abdominal distension, a palpable bladder, and an increase in bowel sounds. The perianal region was excoriated but no evidence of anal fissure was seen. Catheterisation of the bladder yielded 1 litre of urine. The rectum was full of material resembling unaltered bran. Haemoglobin, white cell count, and serum urea and electrolyte concentrations were normal. Abdominal radiographs showed an impacted rectum and the appearances of intestinal obstruction. There were dilated loops of small and large bowel and multiple fluid levels (see figure).



Plain erect abdominal radiograph showing multiple fluid levels in small and large intestines.

Several manual evacuations of the rectum were performed under analgesia, and over the next two days the patient expelled enormous quantities of unaltered bran. Coinciding with relief of the intestinal obstruction, her symptoms, clinical signs, and radiological abnormalities resolved. Improvement in the perianal inflammation allowed sigmoidoscopic examination, which showed the appearances of melanosis coli. No other abnormality was found at sigmoidoscopy or by barium enema examination.

Comment

In 1970 Burkitt suggested that the high frequency of non-infective bowel disorders in Western man correlated with deficient dietary fibre and slow bowel transit times.¹ Low fibre intake has since been implicated in the pathogenesis of the irritable colon syndrome and diverticular disease. The low-residue Western diet has also been suggested as a factor in the development of cholelithiasis, atheroma, and venous thrombosis.² Dietary supplementation using unprocessed bran is therefore widely prescribed for patients suffering from the irritable colon syndrome and diverticular disease, where prospective studies suggest evidence for symptomatic relief.^{3 4}

Bulk laxatives rarely cause intestinal obstruction in the absence of organic strictures. In this patient, however, several factors contributed to obstruction of the large intestine even though the colon and rectum were completely normal at endoscopic and radiological examination: (a) the amount of unprocessed bran taken was 10-15 times the recommended dose; (b) the nervous supply of the colon may have been damaged by the long-term intake of anthracene purgatives, resulting in abnormal intestinal motility; (c) the large dose of imipramine taken would have a considerable constipating effect. All these factors there-

fore probably predisposed the patient to bran-induced intestinal obstruction.

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Arthritis and neuralgic amyotrophy due to *Yersinia enterocolitica*

Yersinia enterocolitica infection is rarely diagnosed in Britain, although it is an endemic zoonosis of western Europe. An associated reactive polyarthritis was reported in 1969.¹ It occurs predominantly in Scandinavia in people with HLA-B27. This, the thirteenth notification in the UK, is the first reported case here of polyarthritis due to *Y. enterocolitica* and is further distinguished by the development of neuralgic amyotrophy.

Case report

A butcher aged 19 developed diarrhoea, fever, and myalgia in October 1977, followed by effusion in the left knee and pain in hips, cervical spine, and left shoulder. Erythrocyte sedimentation rate (ESR) was 50 mm in the first hour, white cell count (WCC) $10.4 \times 10^9/l$ ($10\,400/mm^3$), and anti-streptolysin O titre 200 U. Conventional stool culture, virus studies, tests for hepatitis B antigen, brucella serology, Paul-Bunnell test, and latex test for rheumatoid factor were negative. He was given indomethacin but the polyarthritis persisted and there was rapid, profound weakness and wasting of the left shoulder girdle with severe local pain.

In January 1978 he was admitted to hospital. Weight loss was 12.7 kg. He had synovitis of the right ankle, left hallux, and left knee with effusion. Hips, temporomandibular joints, cervical spine, and left shoulder were painful and restricted. There was wasting and weakness (grade II) of left spinati and deltoid but no fasciculation or sensory loss. Tendon reflexes were equal and plantars flexor. Within 10 days the left biceps and triceps were weak and plantars extensor.

Investigations—ESR 102 mm in first hour; haemoglobin 11.6 g/dl; WCC $12.1 \times 10^9/l$. Knee aspirate sterile. Tests for rheumatoid factor and anti-nuclear antibodies negative. Immunoglobulins and complement studies normal. No immune complexes or complement conversion products detected. Renal and liver function tests normal. X-ray evidence of bilateral sacroiliitis. Muscle biopsy: type IIb atrophy. Homozygous HLA-B27. Myelogram and CSF normal. Serum (18 January): *Y. enterocolitica*, serotype 3; agglutinin O titre 1/320; agglutinin OH titre 1/640. Indirect immunofluorescence reciprocal titres of IgG and IgM on 28 October 1977, 9 November 1977, and 18 January 1978: 0, 0; 100, 20; and 20, <10 respectively. Micro-immunofluorescence antibody test for *Chlamydia trachomatis*: serotypes A to K and LGV serotypes 1-3 negative; serotype 207, IgG 16. Faecal cultures using selenite 30°C enrichment and carbenicillin MacConkey for *Y. enterocolitica* from patient (October and January), family, and cat negative. No yersinia antibodies detected in family.

Comment

This patient had typical *Y. enterocolitica* infection.² Enteritis/abdominal pain was followed by asymmetrical polyarthritis in the legs, with arthralgias affecting hips, shoulders, and temporomandibular joints. Serology was diagnostic. Polyarthritis is 50 times more common in patients with HLA-B27.³ In two-thirds of cases the arthritis settles within three months but may become chronic, often with sacroiliitis, or recur after salmonella or shigella infection. Diagnosis depends on isolating the organism from faeces or detecting serum agglutinins. Both tests are usually positive in the first two months. In half the cases serology is negative after six months.

Our patient had not left East Anglia for over two years. Serotype 3 causes most human infection and also affects pigs, when it may be