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Collagenous Sprue

In temperate regions the commonest cause of malabsorption in conjunction with a flat intestinal mucosa lacking villi is coeliac disease.[1] The definition and diagnosis of this disease depends on proof of its association with gluten, and it is treated by exclusion of this cereal protein from the diet.[2]

However, some patients fail to improve on a gluten-free diet, and the failure rate may be as high as 30%.[3-7] This is in contrast to children with coeliac disease, nearly all of whom respond to the diet. Failure to improve may be due to failure to adhere to the diet, or it may indicate a faulty diagnosis owing to misinterpretation of the biopsy. Occasionally therapeutic failures may be due to the presence of a second disorder, such as pancreatic insufficiency, or to a complication of coeliac disease, such as lymphoma or intestinal ulceration.[8 9] Many patients with coeliac disease commit dietary indiscretions, but luckily there are wide variations in gluten sensitivity from patient to patient, and many suffer no clinical effects. If a patient fails to respond to exclusion of gluten from the diet, and careful review of the diet discloses no obvious intake of it, he should be admitted to hospital so that the diet can be more carefully controlled. If there is still no response, failure may be due to minor indiscretions by a person very sensitive to gluten, or the patient may have another disease.

W. M. Weinstein and colleagues[10] recently described a middle-aged man with malabsorption and a flat jejunal mucosa on biopsy who progressively deteriorated in spite of all treatment and died 42 months after the onset of symptoms. Serial intestinal biopsies showed amorphous hyaline eosinophilic material, identified as collagen, in the lamina propria immediately below the enterocytes. This collagen was not present initially but began to appear in the twentieth month of the illness and was first recognized as such in the thirty-fifth month. They called the condition collagenous sprue.

Does progressively worsening malabsorption unresponsive to a gluten-free diet and associated with subepithelial fibrosis represent a new syndrome? Most authorities now accept that a flat mucosa on biopsy (subtotal villous atrophy) is not confined to coeliac disease and that a convoluted mucosa (partial villous atrophy) has an even wider range of possible causes.[11 12] As study of the small intestine becomes more fashionable, new causes of villous atrophy will be described. A recent example is the report from Singapore of a case of subtotal villous atrophy secondary to pulmonary and intestinal tuberculosis, with mucosal recovery as a result of chemotherapy.[13] Are the collagen deposits specific? Hyaline eosinophilic material with some of the staining properties of collagen was first described at necropsy in two cases of refractory malabsorption.[14] After the advent of jejunal biopsy D. O'B. Hourihane[15] noted foci of subepithelial collagen in 35% of biopsies, and it was a prominent feature in his one fatal case. Moreover, W. T. Cooke and colleagues[4] reported similar material in 42% of their biopsies, though it was not identified as collagen. It therefore appears that eosinophilic deposits are frequent and non-specific.

But their presence has recently been emphasized in three unusual cases of malabsorption. The first patient initially responded to exclusion of gluten from the diet but relapsed after taking a gluten-containing preparation and thereafter ran a downhill course complicated by vasculitis and cryoglobulinaemia.[16] The second patient also had vasculitis and failed to respond to a gluten-free diet until steroid therapy was introduced.[17] The third patient had a fatal malabsorption syndrome, though differing from the other two because certain features militated against the diagnosis of coeliac disease; but the issue was clouded because she had been on a gluten-free diet for some months. Her jejunal biopsy showed diminution of overall mucosal thickness, the enterocytes were normal, and the rate of loss of enterocytes into the intestinal lumen was diminished.[18]

Collagenous sprue may therefore turn out to be a mixed collection of diseases rather than a single entity, and this and other problems may be better understood by the application of an elegant new in vitro technique. Dividing cells may be labelled by tritiated thymidine, which is incorporated into DNA. Once the cell has matured, the label remains unchanged for the rest of its life, and its progress can be followed by autoradiography. Attempts to label the enterocytes of human jejunal biopsies in this way have failed in the past owing to difficulties in tissue culture techniques, but J. S. Trier and T. H. Browning[19] have succeeded in maintaining the cells in good condition for up to 24 hours. In cases of untreated coeliac disease they found increased numbers of labelled nuclei in the crypt of enterocytes, and they showed that a column of labelled cells spread upwards more rapidly from the base of the crypt to the tip of the villus than in healthy tissue and had usually reached the villous surface by 24 hours. This confirms earlier indirect studies which had suggested that the mucosa is hyperactive in coeliac disease, with acceleration of both cell proliferation and migration. A hypoactive mucosa would suggest an alternative diagnosis. Moreover, the enterocytes became histologically normal within 24 hours, as they had been cultured in a gluten-free medium. However, this rapid improvement was not reflected in the biopsy specimens from patients who had been on a gluten-free diet for 6 to 12 weeks, since the rates of proliferation and migration of the enterocytes had not yet returned to normal.

Is there any practical advantage in diagnosing collagenous sprue? When a patient fails to respond to a strict gluten-free diet further treatment should be tried in addition to the correction of any nutritional deficiency. The following measures have been beneficial on occasions: steroids, broad-spectrum antibiotics, milk-free diet, low-fat diet, pancreatic enzymes, folic acid, and vitamin B_{12}. Serial jejunal biopsies may disclose the evolution of a new or specific histological lesion, but for the moment the finding of subepithelial collagen can do no more than suggest a poor prognosis, though even this is not certain.

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Benefits after the Budget

Increases in pensions and other social benefits are always welcome. Paying for them is less so. Whether the money for the increased benefits should come out of taxation or out of increased contributions or both is a matter of political judgement for the Government of the day. The present administration has made its philosophy clear.[1] People should be encouraged to stand on their own feet and social benefits should be channelled to those individuals who really need them. It is not surprising, therefore, that the Government has chosen to finance the bulk of the extra £560m. needed for the new benefits—a rise of about 20%—out of increased insurance contributions with only around 18% coming from the Exchequer. Certainly as far as employers and the middle income groups in the country are concerned any mild euphoria created by the budget itself may have been dampened by Sir Keith Joseph's announcement about the graduated increases in weekly National Insurance contributions which the Government proposes to introduce in September (p. 117). Many people will see little practical distinction between paying for the improved benefits out of an increase in taxation or out of increased contributions. But it can be argued that to link contributions to the services provided is to foster a sense of individual responsibility. In any event it is reasonable that people with higher incomes should pay bigger contributions.

One of the serious consequences of rapid inflation is that the least well-off in the community, such as the elderly and disabled, are the least well-equipped to cope with it. Unhappily inflation also makes the better-off less than enthusiastic about anything that further increases their cost of living. Furthermore, the worse the inflation the greater is the number of people in need, with usually also fewer workpeople to finance social benefits—a vicious circle to daunt the most dexterous politician. The larger benefits will in most cases merely offset the effects of inflation. By how much the real incomes of the elderly, disabled, and others concerned will be protected is difficult to forecast. To a great extent this will depend on economic events between now and September.

Nevertheless, Sir Keith Joseph deserves credit for the efforts he has made to help the chronic sick, for it is right that they should have better benefits than those ill for short periods. They are a large group in the community and being often out of sight are too often also out of mind. However, doctors are only too well aware of the tremendous problem these people and their families face, for as well as having to overcome their disabilities most of them have the added worry of inadequate incomes. Everybody will welcome the pension increases. The modest increase of £1 a week should help to prevent some pensioners from succumbing to avoidable illnesses. It is a sobering thought, though, that the total annual increase for a single pensioner will be less than the cost of a bed for one week in the average provincial hospital.

The graduated increases in National Insurance stamp contributions will mean that a person earning £18 a week will suffer no increase at all. The £20 a week earner will pay 3p a week more, while an individual earning £42 a week or over will pay an extra 65p. Employers' contributions will also be raised and overall will match the increase in contributions from employees. Among the improved benefits announced by the Secretary of State for Social Services will be bigger pensions for the over-80s—first introduced in 1970—which will go up from £3 to £3·60 for a single person (the Budget itself contained details of general pension increases). War and industrially disabled pensioners will get an extra £1·60 a week bringing them up to £10, and supplementary benefits will also be raised, for instance by 95p to £9·45 for a married couple. The chronic sick will receive, according to Sir Keith Joseph, a "substantial package of improvements." These range from £1 a week on to the usual sickness benefit rates for someone incapacitated before the age of 35 to an addition of 30p a week for a man whose incapacity occurred between the ages of 45 and 60. The scheme, which should help over 75% of the 400,000 chronic sick, favours those who become chronically sick when young, because their opportunities for saving or accumulating pension rights are limited. The wife of a man with prolonged incapacity will also be helped by easement of the pensions earnings rules, a sensible and sympathetic amendment. The Secretary of State instanced the National Insurance benefit of a man with two children and a non-earning wife who fell chronically sick at 30. It would rise by nearly 50%, from £11·20 a week to £16·60, an example which illustrates the real plight of these families, for even with this improvement the weekly income is still perilously low for a family of four.

Sir Keith Joseph told Parliament that the increases for the disabled were modest but that they were a beginning. Taken with the Government's previous action in introducing pensions for the over-80s and attendance allowances for the severely disabled these new proposals show that the Government is prepared to pay more than lip service to those in the community who genuinely require assistance. On the whole the overall pattern of benefits and contributions is reasonably balanced in that people most in need will get extra help while the cost is borne by those most able to bear it. However, he admitted that the help given to the disabled was not yet as good as in some European countries.[2] It was a pity, though, that in Parliamentary exchanges following his announcement Sir Keith Joseph allowed himself to be provoked into saying it was not for the Labour Party to rebuke the Conservatives about the adequacy of their intentions since in six years in office it "did precisely nothing about the chronic sick." The reported Conservative cheers at this political point[3] will have a hollow ring for the disabled. Everybody recognizes the acute problems faced by the elderly and disabled, and ways of resolving them are a legitimate area for political discussion. Exchanges of political invective in or out of Parliament will help nobody, least of all the people who so desperately need it.

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