The second patient was investigated by his G.P. at the age of 34 in 1952. He had been married for 14 years with no children. A physical examination was normal, as was his sexual function. No abnormalities had been found when his wife was investigated in 1946. In 1968 he was referred from his G.P. with a three-week history of diarrhoea. Faecal fats were 22 g/dy, and jejunal biopsy showed subtotal villous atrophy. He was diagnosed as having coeliac disease and started on a gluten-free diet. In 1973 a repeat jejunal biopsy showed normal histology.

Discussion

The beneficial effect of gluten withdrawal was judged in both cases by the return to normal of seminal fluid analyses which had been subnormal before treatment according to established criteria,[2] in which sperm counts below 10 million/ml, motility less than 40%, and total volume below 1·5 ml may be regarded as "suboptimal for conception." Further proof of fertility was provided by successful pregnancy in one wife, but the second patient's wife had reached the menopause before he began his gluten-free diet.

The mechanism of this reversible infertility in both men and women remains obscure. Malnutrition, wasting, and vitamin B_{12} deficiency may cause infertility in both sexes[3] but were not present in either our two men or the three women previously reported with reversible infertility. Folate deficiency, iron deficiency, and anaemia were noted in some of these patients, but do not cause infertility by themselves.[4]

Despite the prolonged failure of conception in the marriages, these husbands were examined for infertility no less than six years and one and a half years after their wives had been investigated and pronounced normal. Coeliac disease in adults is often completely asymptomatic and should, therefore, always be considered as a possible cause in cases of infertility with oligospermia in men.

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Late Recurrence of Thrombotic Thrombocytopenic Purpura after Splenectomy

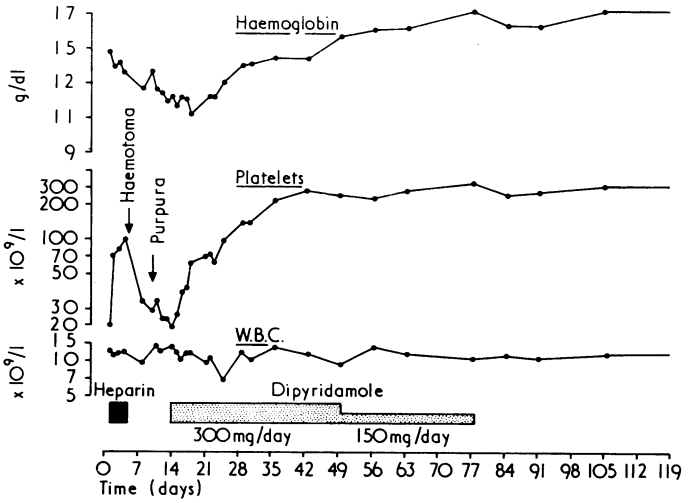
A unique case of recurrence of thrombotic thrombocytopenic purpura (T.T.P.) is described; surprisingly, this occurred 12 years after splenectomy.

Case Report

This man's initial episode[1] fulfilled the criteria of Amorosi *et al.*[2] for a diagnosis of T.T.P. He was treated with massive doses of steroids, blood transfusion, and, ultimately, splenectomy. Clinical and haematological remission was maintained for 18 months before he was lost to follow up. In 1974 he presented with dark urine and slight jaundice, which had developed one week after an influenza-like illness comprising sore throat, cough, anorexia, and vomiting. Examination confirmed the icterus but the only additional finding was an initial temperature of 37·4°C, which did not recur.

Laboratory investigation showed microangiopathic haemolysis in the absence of a detectable clotting abnormality: there was red-cell fragmentation; bilirubin was 34·2 μmol/l (2·0 mg/100 ml), lactic dehydrogenase 1720 U/ml, and platelets 22 × 10^9/l; fibrinogen titre was 1/128 and fibrin degradation products in blood and urine <2 g/l. Renal function was impaired, with blood urea level 11·8 μmol/l (71 mg/100 ml), creatinine clearance 82 and 89 ml/min successively, and urine protein 370 mg/l; granular casts were seen. The only bacteriological abnormality was an antistreptolysin O (A.S.O) titre of 625 U/ml.

Treatment was begun with intravenous heparin, 10 000 units six hourly, and he was given penicillin because of the history of sore throat. The platelet count rose immediately (see fig.) but heparin was stopped four days later because of a large haematoma at a venepuncture site. The platelet count fell during the next week to 20 × 10^9/l and purpura appeared on the legs and chest. Dipyridamole 300 mg/day was begun and the platelet count rose immediately. Over the next two weeks platelet levels became normal and no new purpura appeared. Subsequently dipyridamole was withdrawn by steps (fig.) without deterioration clinically or biochemically.



Treatment and course of patient with recurrence of thrombotic thrombocytopenic purpura.

In contrast to the initial episode fever was brief and the patient never seemed seriously ill; there was no apparent mental or neurological impairment; there was laboratory evidence of microangiopathic haemolysis, but this was mild (as judged by a reticulocyte count of 2% or less); and there was never any evidence of excessive fibrin consumption or fibrinolysis. After five days the blood urea and serum bilirubin levels returned to normal and urobilinogen was no longer detectable in the urine. Six months after his illness he remained in remission.

Discussion

Late recurrence of T.T.P. has not been described. The condition was probably not chronically active in this patient in view of his full haematological remission and the 12 symptom-free years which intervened. The relapse may have been precipitated by an upper respiratory tract infection, and the raised A.S.O. titre raised a possible streptococcal aetiology. Heparin alone produced a pronounced rise in the platelet count. Giromini *et al.*,[3] however, found that full heparin and prednisone treatment produced no response, though dipyridamole and aspirin therapy produced good results.

Dipyridamole is a potent inhibitor of platelet aggregation. Its rational use in T.T.P. is based on T.T.P.'s inclusion[4] among thrombotic conditions in which the lesion seems restricted to platelet aggregation and consumption. Importantly for possibly debilitated patients, T.T.P. has been treated successfully with aspirin, dipyridamole, and steroids without recourse to splenectomy.[5] Dipyridamole seems to play the key part in restoring the life span of platelets to normal. Aspirin, though ineffective alone, allows lower doses of dipyridamole to be used.

Our patient might have had only mild disease because of his earlier splenectomy, and this might account for the dramatic effectiveness of heparin and then dipyridamole alone. Certainly, dipyridamole should not be used alone in the patient who retains a spleen, but together with agents such as aspirin, steroids, and dextran 70 it may be useful for treating this serious condition.

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