In case 2 hyperthyroidism caused an increase in appetite, and loss of control over the patient's eating behaviour may have precipitated the onset of anorexia nervosa.

Thyroid hormones may be misused by obese patients and occasionally by anorectic patients in an attempt to lose weight. Factitious hyperthyroidism was excluded in our patients by the increased uptake of radioactive iodine by the thyroid. A lack of response to carbimazole is usually due to poor compliance, which in case 1 was compounded by self induced vomiting. Uncontrolled hyperthyroidism leading to cardiac failure has been reported in a patient who refused treatment because hyperthyroidism helped her to lose weight.³

Eating disorders are common in young women with diabetes, in whom weight loss may precipitate diabetic complications.⁴ Medical advice may draw the patient's

attention to body weight and diet, precipitating anorexia nervosa.

We conclude that hyperthyroidism in patients with eating disorders may lead to psychiatric distress because of loss of control over body weight. Self induced vomiting may cause apparent failure to respond to drug treatment.

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Recurrent acute hypersensitivity to quinine

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We report on a woman who developed acute renal failure on three separate occasions over 20 years after taking various substances that contained quinine. Our report highlights the potential hazards of hypersensitivity to quinine.

Case report

A 63 year old woman presented in December 1987 with a 72 hour history of anuria. She had developed shivering and had felt generally unwell after drinking tonic water, which contains quinine. By 36 hours anuria, generalised itching, and spontaneous bruising had developed. Her recent general health had been good. In 1965 she had required dialysis after taking a sedative that contained quinine. In 1981 she had again developed acute renal impairment with evidence of disseminated intravascular coagulation shortly after drinking bitter lemon, which contains a small amount of quinine; her renal function had improved after treatment.

On admission in 1987 the patient had renal failure (urea concentration 40.1 mmol/l, creatinine concentration 1540 µmol/l). Her haemoglobin concentration fell from 122 g/l to 54 g/l with a platelet count of $64 \times 10^9/l$. Ultrasound scanning showed a small left kidney but a normal sized right kidney. A screen of coagulation factors showed a raised concentration of fibrin degradation products (32 mg/l). Renal biopsy showed extensive cortical necrosis, red cells and fibrin in the glomeruli, and fibrin in the walls of the arterioles (figure). Glomeruli that were not necrotic showed segmental sclerosis. These findings were thought to be due to severe recurrent hypersensitivity.

After haemodialysis she gradually improved but nine months later had permanent renal impairment (urea concentration 16.6 mmol/l, creatinine concentration 363 µmol/l). She was given a list of foods and compounds that contain quinine, which she was told to avoid, and two years later she remained well.

Comment

This patient's history suggests a diagnosis of recurrent hypersensitivity to quinine resulting in

Renal biopsy specimen stained with Masson trichrome showing necrotic glomerulus containing clumps of darkly staining fibrin

disseminated intravascular coagulation with secondary thrombocytopenia. Biopsy showed that the acute uraemic crises were caused by cortical ischaemia with intravascular coagulation and deposition of fibrin; the cortical necrosis shows the severity and permanence of the renal damage. Between 1981 and 1988 the patient's left kidney shrank considerably, probably because of chronic vascular insufficiency.

Hypersensitivity to quinine, rather than direct toxicity, has been reported many times; manifestations include purpura,¹ thrombocytopenia,² disseminated intravascular coagulation,² haemolysis,³ haemoglobinuria,⁴ and acute renal failure.⁵ Our case supports the theory that in acute renal failure of this type intravascular coagulation is a more important factor than haemolysis.⁵

Hypersensitivity to quinine is rare but potentially fatal. Small amounts of quinine are found in many medicines, tonics, drinks, and dietary items. All substances containing quinine should be clearly labelled, and all patients starting treatment with quinine should be questioned for evidence of hypersensitivity. A comprehensive list of substances that contain quinine should be available for hypersensitive people.

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