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Lesson of the Week

Crohn's disease presenting as anorexia nervosa

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As there is no diagnostic test for anorexia nervosa other causes of anorexia and weight loss should always be considered before anorexia nervosa is diagnosed. Crohn's disease of the intestine may be mistaken for anorexia nervosa,¹⁻³ and we report four cases.

Crohn's disease may be mistaken for anorexia nervosa

Case reports

CASE 1

A woman aged 21 was admitted to a psychiatric ward in 1966 with a three year history of anorexia, amenorrhoea, and weight loss. She also, however, complained of intermittent abdominal pain, constipation, and episodes of diarrhoea. She had been investigated in 1964, when her erythrocyte sedimentation rate was raised but barium studies were not performed.

Psychiatric assessment showed her to be conscientious, strong willed, and independent, and her mother was overpossessive. She was thin, weighing 27.2 kg or 53% of her desirable body weight for height. She had a tender mass in the right iliac fossa. The results of clinical investigations were haemoglobin concentration 71 g/l (normal 120-150), erythrocyte sedimentation rate 60 mm in the first hour (normal 0-7), plasma total protein concentration 54 g/l (normal 61-77), serum iron concentration 11 µmol/l (normal 13-32), serum folate concentration 4 µg/l (normal 4-10), and vitamin B₁₂ concentration 430 ng/l (normal 150-1000).

She was initially treated with chlorpromazine and modified insulin treatment, but she did not respond and developed overt steatorrhoea. A small bowel meal showed a fistula between the mid-small bowel and sigmoid colon, and laparotomy showed Crohn's disease of the terminal ileum, caecum, and descending and sigmoid colon. A modified right hemicolectomy and resection of the descending and sigmoid colon were performed. Subsequently her symptoms improved appreciably, and she gained 15 kg over 10 months, achieving 80% of her desirable body weight. Later, however, she experienced recurrent relapses and in 1980 required extensive resection of the small bowel. Interestingly, she also developed

symptoms of mild schizophrenia, with recurrent psychotic episodes occurring typically during exacerbations of her Crohn's disease, perhaps as a result of treatment with steroids.

CASE 2

A woman aged 37 was admitted to hospital in April 1986 with a three year history of anorexia, weight loss, diarrhoea, amenorrhoea, and Raynaud's phenomenon. She had been previously found to have iron deficiency anaemia (haemoglobin concentration 90 g/l), but the results of a small bowel meal and the histological appearance of a biopsy specimen of the small bowel had been normal. After the death of her father in 1986 she developed a depressive illness and was transferred to psychiatric care, where anorexia nervosa was also diagnosed.

Her psychiatric treatment was interrupted by an abscess in the left groin, which required surgical drainage. She was subsequently unable to tolerate a dietary regimen for anorexia nervosa owing to colicky abdominal pain, diarrhoea, and vomiting. Her weight had fallen to 34 kg (68% of her desirable body weight). The results of clinical investigations were haemoglobin concentration 126 g/l, white cells 12.8 × 10⁹/l, erythrocyte sedimentation rate 47 mm in the first hour, serum albumin concentration 38 g/l (normal 41-51), serum iron concentration 6.3 µmol/l, iron saturation 10% (normal 18-71), red cell folate concentration 355 µg/l (normal 135-750), and serum vitamin B₁₂ concentration 285 ng/l. A small bowel enema showed two strictures in the ileum.

Laparotomy and resection of the ileal strictures were performed, and histological examination confirmed Crohn's disease. The gastrointestinal symptoms rapidly settled, and she gained 7 kg in weight over the next seven months, achieving 82% of her desirable body weight.

CASE 3

A girl aged 13 was admitted to a psychiatric ward in 1986 with a prolonged history of poor food intake, nausea, vomiting, and reduced weight and height for her age. She had been constipated but recently had had loose stools. She had not experienced menarche.

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Psychiatric assessment showed appropriate affect and no food phobias, and she saw herself as thin. She complained that occasionally she felt that her body "resisted her impulses to eat," and she had also experienced episodes of moodiness and depression. Her weight was 35.9 kg, which was below the third centile for her age and 55% of the expected weight for her age and height. She had angular stomatitis and multiple oral aphthous ulcers. The results of clinical investigations were haemoglobin concentration 86 g/l, erythrocyte sedimentation rate 42 mm in the first hour, serum albumin concentration 30 g/l, serum iron concentration 4.1 µmol/l, iron saturation 9%, red cell folate concentration 798 µg/l, and serum vitamin B₁₂ concentration 613 ng/l.

She failed to respond to behavioural therapy based on a dietary regimen, and a small bowel meal showed an irregular nodular pattern of the terminal ileal mucosa. After an unsuccessful trial of enteral feeding and treatment with corticosteroids she underwent laparotomy, which showed Crohn's disease of the terminal 20 cm of ileum, which was resected. She made a rapid recovery and in nine months gained 9 kg, achieving 69% of the expected weight for her age and height.

CASE 4

A young woman aged 18 presented in 1986 with a four month history of anorexia, weight loss, and amenorrhoea. She had experienced occasional abdominal pain on eating and episodes of diarrhoea. The results of clinical investigations were haemoglobin concentration 43 g/l, erythrocyte sedimentation rate 110 mm in the first hour, serum albumin concentration 35 g/l, serum iron concentration 12.9 µmol/l, iron saturation 32%, red cell folate concentration 70 µg/l, serum folate concentration 0.4 µg/l, and vitamin B₁₂ concentration 163 ng/l.

She was initially treated with folic acid and then referred for psychiatric assessment; anorexia nervosa was diagnosed provisionally. On further questioning she seemed shy, and she said that she had tended to be tearful since the murder of her mother five years previously. She was fussy about what she ate but did not have a distorted body image. She denied using purgatives. She was thin, weighing 41.1 kg (76% of her desirable body weight). In four months she developed iron deficiency (serum iron concentration 4.1 µmol/l and iron saturation 11%) and her serum albumin concentration fell to 27 g/l. She was treated with bed rest, chlorpromazine, and iron supplements, but she discharged herself before she had gained weight.

Six months later her weight had fallen to 36 kg (66% of her desirable body weight) and she was again appreciably deficient in folate (haemoglobin concentration 58 g/l). A small bowel biopsy specimen was normal, but a small bowel meal showed oedematous loops of jejunum with mucosal ulceration in keeping with Crohn's disease. She was treated with corticosteroids, sulphasalazine, an elemental diet, and supplements of folic acid. The abdominal pain and diarrhoea quickly settled and her weight increased by 7 kg over three months to 79% of her desirable body weight.

Discussion

The five criteria for a diagnosis of anorexia nervosa given in the American Psychiatric Association's *Diagnostic and Statistical Manual* are: refusal to maintain normal body weight, loss of more than 25% of original body weight, disturbance of body image, intense fear of becoming fat, and no known medical illness leading to weight loss.⁴ Most doctors would also accept that certain other features are typical⁵—namely, that the condition most commonly affects young women from the middle and upper socioeconomic classes who are hard working, eager to please, and successful.⁵ There are certain characteristic physical manifestations of the disorder such as amenorrhoea; lanugo hair; bradycardia; constipation; and intermittent abdominal pain, which is probably secondary to sluggish intestinal transit and the constipation. There may also be self induced vomiting and purgation in an attempt to maintain weight loss.

Each of our four patients fulfilled some of these criteria, but none had symptoms of a distorted body image or admitted to a fear of becoming fat. Of note is that the patient in case 1 did eventually develop a psychiatric illness, but this was schizophrenic in nature and did not develop until after Crohn's disease had been diagnosed. Crohn's disease was initially overlooked in our patients because in each case its presentation was comparatively silent, with only minor symptoms of abdominal pain, diarrhoea, constipation, and

vomiting, which can also be features of anorexia nervosa. A few cases of Crohn's disease mistaken for anorexia nervosa have been reported,^{1,3} but this differential diagnosis is not listed in most textbooks of psychiatry. The assumption is probably that the presenting symptoms of Crohn's disease are obvious, but they may be diverse⁶ and comparatively silent, as our cases confirm. In children, especially, Crohn's disease is often missed initially,⁷ and it may present predominantly with non-specific features such as growth retardation, anorexia, lassitude, and unexplained fever.⁸ An initial diagnosis of a functional bowel disorder, such as "school phobia," is not uncommon.

Features suggestive of Crohn's disease include mouth ulcers (case 3) and an abdominal mass (case 1). Results of blood tests may show anaemia and deficiencies of iron, folate, and vitamin B₁₂, which are all uncommon in anorexia nervosa and should suggest malabsorption. Raised erythrocyte sedimentation rate and white cell and platelet counts⁹ are also features of inflammatory bowel disease but not anorexia nervosa. Similarly, hypoalbuminaemia is unusual in anorexia nervosa,¹⁰ but common in inflammatory bowel disease. A raised concentration of C reactive protein is another indicator of underlying organic disease. Although we did not measure the concentration of C reactive protein in our patients, it is often high in active Crohn's disease.¹¹

These cases also show that the delay in diagnosing Crohn's disease can be prolonged, as in cases 1 and 2, with patients enduring years of weight loss and debility, even though there are usually sufficient symptoms, physical signs, or abnormal results of laboratory investigations at least to arouse suspicion of inflammatory bowel disease.

We thank Dr Brian Creamer for allowing us to report on his patient (case 1), and Professor G F M Russell for referring his patients (cases 2 and 3) to us.

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ANY QUESTIONS

Is there any evidence that avoiding crossing the legs after surgery or after vascular accidents reduces the incidence of deep vein thrombosis?

To my knowledge there is no evidence that avoiding crossing the legs reduces the incidence of deep vein thrombosis. It is unlikely that any difference could be shown given that clinical trials have not shown physical methods such as raising the legs and active exercises to make any significant difference. Although it makes sense to avoid any gross constriction or compression of veins in the postoperative period or period after a stroke, it is difficult to see, anatomically speaking, how crossing the legs can seriously hinder venous flow. Sitting for any length of time with the edge of a chair pressing on the back of the knee is much more likely to promote thrombosis.—C V RUCKLEY, consultant surgeon, Edinburgh.