CASE REPORTS

Anorexia nervosa with herpes simplex encephalitis

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Summary

Studies of patients suffering from anorexia nervosa appear to show an increased immunity to certain infections, as well as immunological deficiencies. This is the report of a patient with anorexia nervosa who developed herpes simplex encephalitis, a condition associated with lowered immunological defense mechanisms.

Introduction

The incidence of infectious complications in anorexia nervosa is uncertain. It has been suggested that leucopenia in anorexia nervosa contributes to susceptibility to infection or to immunological deficiencies (Hurd, Palumbo and Gharib, 1977). However, the meaning of isolated laboratory investigations with regard to the clinical state of the patient with anorexia nervosa is considered questionable (Lucas, 1977) and in fact studies have shown a lack of association of leucopenia with increased propensity to infection in anorexia nervosa (Bowers and Eckert, 1978). On the contrary, patients with anorexia nervosa have been found to be exceptionally free from infections until very advanced stages of the illness. They rarely develop the common cold or influenza and seldom die from infective illness (Crisp, 1967; Dally, 1969). Dally reported that patients complain after regaining weight that they lose this immunity. In contrast to the supposed resistance to infections, there is evidence to suggest an increased susceptibility to tuberculosis (Dally, 1969; Crisp, Palmer and Kalucy, 1976). A recent investigation of the immune response of patients suffering from anorexia nervosa showed higher titres of antibodies in response to 3 different influenza antigens, and similar cellular immune responses to tuberculin when compared with controls (Armstrong-Esther et al., 1978).

In the light of this, a case is reported of a patient with anorexia nervosa who developed herpes simplex encephalitis.

Case report

The patient was a 19-year-old, single, Caucasian female who presented to a Psychiatric Emergency Unit with acute onset of severe depression. There was a history of emotional deprivation in childhood and over the last 14 months she had developed anorexia nervosa with food refusal, pursuit of thinness, amenorrhoea and severe weight loss from 64 to 39 kg. There was no history of excessive vomiting or purgation or other physical illness. Up to her admission she had attended university regularly and with apparent satisfactory progress.

On examination she was a tall, extremely emaciated woman with pressure sores over the sacrum and both heels. Mentally she was depressed. Her BP was 100/60 mmHg, pulse rate 48/min, and her temperature was normal.

She was admitted to hospital, refeeding commenced and her future psychiatric and medical management initiated.

On the sixth day of her admission she complained of muscular pains, developed epistaxis and haematuria and petechial haemorrhages in the skin, and suddenly collapsed and died within a few hours.

At post-mortem she was found to have disseminated herpes simplex infection involving the central nervous system, lungs, liver, spleen, tongue and oesophagus. The cause of death was cerebral infarction with massive intra-cerebral haemorrhage. Examination of the bone marrow showed the femoral marrow to be reactive in the distal portion, while the proximal marrow had a gelatinous, yellow appearance as is commonly encountered in malnutrition. Microscopically there was no abnormality in the bone marrow.

Discussion

In starvation, diet is deficient in vitamins, protein, as well as calories but in anorexia nervosa the diet is primarily deficient in carbohydrates and calories with an adequate intake of protein, and vitamin deficiencies are rare. Thus, resistance to infection may be preserved in anorexia nervosa. However, vitamin deficiencies have been reported in anorexia nervosa, particularly in association with idiosyncratic eating habits (George, Zabow and Beumont,
1975), and vomiting and purging may lead to marked metabolic disturbances. It is therefore probable that although anorexia nervosa may typically confer a degree of immunity to infection, the diet of some patients approaches that of starvation and an increased susceptibility to infection may develop.

The patient had long-standing anorexia nervosa and it is assumed that the sudden onset of depression as an important symptom was due to the herpes simplex infection. It was surprising that initially there were no other symptoms of a severe viral illness.

Herpes simplex infection is commonly associated with lowered immunological defence mechanisms and it seems reasonable to conclude that in this case the patient's malnourished state contributed to her susceptibility to infection.

References
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