Primary anorexia nervosa

In recent years, psychiatrists^{1,2,3,4,5}, have been studying anorexia nervosa systematically, and it has been proposed^{6,7,8}, that a state of primary anorexia nervosa, occurring mainly in young, adolescent girls, can be identified and separated from other states of 'nervous malnutrition'.⁹ The condition is a rare one, but the recent reports have all been concerned with 50 or more typical patients as the basis for their respective studies. From a psychological standpoint the condition has usually been viewed as primarily a feeding problem, but recently Bruch¹⁰ has emphasized the central psychological need of these patients to be thin, and Crisp⁶ has claimed that the psychological posture can most usefully be viewed as a phobia and consequent avoidance of normal adolescent weight, the disorder pivoting around the maturational changes of puberty and their psychosocial implications for the patient. The presence and nature of such psychological difficulties at the time of onset of the disorder is often subsequently obscured by the patient's obstinate and fearful denial of such problems which she has only been able to solve or minimize through the process of her illness.

As a group, although not invariably so as individuals, the patients are characterized¹ by having been overweight in conjunction with a high growth rate. It has also been proposed⁶ that the differential sex incidence (the condition is about 20 times more common in females than in males) may be related to several factors, including the higher rate of growth and earlier maturation of girls, the special sexual conflicts confronting women in adolescence, such as the risk of pregnancy, as well as the greater tendency for girls to wish to be slender and thereby to embark on dieting and carbohydrate elimination from time to time, thus providing the most common initial mechanism from which the disorder can stem.

Treatment is usually aimed at restoring body weight to a normal level. This invariably requires hospital admission and the techniques for achieving it are various. Most psychiatrists agree that the patient needs to be in hospital for at least three months and under close supervision during this time. Phenothiazine drugs are often used and it may be¹¹ that these drugs have a specific effect of increasing the capacity to eat as well as serving to allay associated anxiety and reducing activity. Some workers have used insulin in small doses in an effort to increase appetite. However, there is little evidence¹² that these patients are naturally depleted of insulin or unresponsive; furthermore they are usually, by normal standards, already mildly hypoglycaemic. Although they often deny it, the majority of them are consciously contending with hunger and a desire to eat for much of the time. It is probably important to retrain these patients to eat normal meals, including sensible amounts of carbohydrate, rather than attempting to restore their weight by artificial feeding. It is generally agreed that restoration of weight is an inadequate criterion of recovery and that psychological help is often needed if the patient is to cope with and tolerate the implications of her own restored weight. If this is not available, or if the patient believes that she cannot be helped in this way, then she is unlikely to stay in hospital long enough to have her weight fully restored.

The metabolic disorders accompanying the condition have been found to

be mainly secondary to the psychologically induced and self-imposed starvation. Major disturbances of fluid balance,¹³ thyroid activity, and fat metabolism¹⁴ disappear when weight is regained and the pattern of eating becomes normal. However, the same investigators have also demonstrated certain more constitutional characteristics. Russell⁴ has proposed that a separate hypothalamic constitutional propensity for amenorrhoea may be reflected by the amenorrhoea sometimes preceding the onset of other aspects of the disorder and continuing after their remission, but Crisp¹⁵ is doubtful if this is often the case so far as anorexia nervosa is concerned. On the contrary, he believes that the dietary disorder may be a factor determining the amenorrhoea and that this has often started at an earlier date than the patient is currently able to indicate and often persists, undisclosed, for some time after the weight has been restored. However, secondary amenorrhoea can occur as an isolated symptom in patients without anorexia nervosa and is also a feature of many psychiatric illnesses,¹⁶ suggesting that a separate constitutional or psychological factor may sometimes be operative at least in these other conditions. Investigators^{1,12} have also shown that the anorexia nervosa population overlaps with the obese population both within the patient group itself, as an aspect of the historical process, and within the family; also that these populations share such fairly stable biochemical characteristics, still present in the anorexia nervosa patient one year after full recovery, as a sustained insulin response to intravenous dextrose. Attention has been drawn² to an addictive 'oral' factor in anorexia nervosa and obesity with its basis possibly in such biochemical mechanisms. Finally, from the constitutional standpoint, it has been demonstrated that a small part of the EEG abnormalities and propensity for clinical epilepsy which the patients display¹⁷ is not a function of secondary metabolic upheaval but a more prevailing characteristic. For instance, EEG spike-and-wave phenomena characterized¹⁸ an identical twin pair discordant for anorexia nervosa; other evidence so far¹ suggests that primary anorexia nervosa itself is not directly or simply genetically determined.

The differential diagnosis of anorexia nervosa¹⁹ has always presented special problems, not least because of these patients' secretive behaviour and their denial of psychological difficulties. The distinction between anorexia nervosa and Simmond's disease is simple enough on physical examination alone.²⁰ Patients with anorexia nervosa are usually emaciated, hirsute, restless, and show markedly poor peripheral circulation as well as general hypometabolism. The condition is much more difficult to recognize when it masquerades under one of its prominent or revealed symptoms in the general medical clinic, usually as unexplained diarrhoea, abdominal pain, vomiting, amenorrhoea, hirsutes, chilblains, or periodic oedema. Patients with anorexia nervosa have undergone appendicectomy significantly more often than other comparable subjects.¹⁹ A low BMR and bradycardia, combined with a high serum cholesterol level,^{21,22} have sometimes wrongly focused attention on thyroid activity as a possible primary aetiological factor. When the patient has been secretly overeating and presents with breathlessness, sweating, tachycardia, a racing pulse, a bitter complaint of feeling overwhelmingly hungry and shows an inflated BMR, then the condition may be initially difficult to distinguish from thyrotoxicosis. Such patients may have gained 10 or more kilograms in weight within a few days. Disorders of fluid balance may become profound as the condition progresses and become

complicated by the effects of general starvation, punctuated by periodic and sometimes secret carbohydrate binges, vomiting, excessive purging, and, occasionally, secret polydipsia deriving from the patient's frantic efforts to assuage her desire to eat. At the height of the disorder, symptomatic high levels of plasma cortisol and androgens,¹⁹ accompanied by a low urinary output of steroid degradation substances, and, in conjunction with amenorrhoea, hirsuties and denial of other symptoms and behavioural disturbances, may focus the doctor's attention predominantly upon the adrenal function.

The illness may also be difficult to recognize in the psychiatric clinic where it can present as a periodic disturbance in which the patient becomes intensely distressed, ashamed of herself, convinced that she is pregnant, and is sometimes suicidal, in association with bouts of fluid retention. Such cases may be difficult to distinguish from the group of conditions described elsewhere as one form of periodic psychosis.²³ The disorder may present to the psychiatrist with its affective or obsessional features to the fore, and diagnostic attention, especially when denial and secretive behaviour are a feature of the patient's state, may be diverted towards these aspects. Those chronic patients who have progressed to a state of overeating and vomiting not infrequently appear to become dominated by 'oral' behaviour,² and may sometimes present with alcoholism.

Several studies^{6,24} have shown that there is still quite a high (10-15%) mortality. Patients usually die from inanition or suicide when the disorder has been present for 10 or more years. It is important to treat the condition during adolescence while there is still time for the patient to make something of her life, and before the illness has also become complicated by such behaviour as overeating, vomiting, and excessive purgation. Most patients seen and treated at this early state will recover.

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REFERENCES

- Crisp, A. H. (1966). *A Psychosomatic Study of Anorexia Nervosa—A Controlled Study of Some Aspects of the Constitution and Premorbid Feeding Behaviour of Patients*. M.D. Thesis, University of London.
- ²Crisp, A. H. (1967). The possible significance of some behavioural correlates of weight and carbohydrate intake. *J. psychosom. Res.*, **11**, 117-131.
- ³Dally, P. J. (1967). Anorexia nervosa—long-term follow up and effects of treatment. *Ibid.*, **11**, 151-155.
- ⁴Russell, G. F. M. (1965). Metabolic aspects of anorexia nervosa. *Proc. roy. Soc. Med.*, **58**, 811-814.
- ⁵Thomä, H. (1967). *Anorexia Nervosa*. International Universities Press, New York.
- ⁶Crisp, A. H. (1967). Anorexia nervosa. *Hosp. Med.*, May, 713-718.
- ⁷Dally, P. J., and Sargent W. (1960). A new treatment of anorexia nervosa. *Brit. med. J.*, **1**, 1770-1773.
- ⁸King, A. (1963). Primary and secondary anorexia nervosa syndromes. *Brit. J. psychiat.*, **109**, 470-479.
- ⁹Bliss, E. L., and Branch, C. H. H. (1960). *Anorexia Nervosa*. Hoeber, New York.
- ¹⁰Bruch, H. (1965). Anorexia nervosa and its differential diagnosis. *J. nerv. ment. Dis.*, **141**, 555-566.
- ¹¹Crisp, A. H. (1966). A treatment regime for anorexia nervosa. *Brit. J. psychiat.*, **112**, 505-512.
- ¹²Crisp, A. H., Ellis, J., and Lowy, C. (1967). Insulin response to a rapid intravenous injection of dextrose in patients with anorexia nervosa and obesity. *Postgrad. med. J.*, **43**, 97-102.
- ¹³Russell, G. F. M. (1968). Research conducted in the Metabolic Unit 1956-66. Anorexia nervosa. In *Studies in Psychiatry*, pp. 223-240. Oxford Med. Pubs.
- ¹⁴Crisp, A. H.—Lace, A.—Blendis, L. M.—Pawan, G. L. S., Crisp, A. H., and Blendis, L. M. (1967) Abstracts on anorexia nervosa. *Proc. nutr. Soc.*, **26**, xxxii-xxxv.
- ¹⁵Crisp, A. H. (1965). Clinical and therapeutic aspects of anorexia nervosa—a study of 30 cases. *J. psychosom. Res.*, **9**, 67-78.
- ¹⁶Gregory, B. A. J. C. (1957). The menstrual cycle and its disorders in psychiatric patients. I. Review of the literature. *Ibid.*, **2**, 61-79.
- ¹⁷Crisp, A. H., Fenton, G. W., and Scotton, L. (1968). The EEG in anorexia nervosa. A controlled study of 30 patients. *Brit. J. psychiat.* (in press).
- ¹⁸Crisp, A. H. (1965). Anorexia nervosa in an identical twin. *Postgrad. med. J.*, **42**, 86-92.
- ¹⁹Crisp, A. H. (1967). *The Relationship of Denial to the Differential Diagnosis of Anorexia Nervosa*. Paper read at 7th European Psychosomatic Conference, Rome. (To be published.)
- ²⁰Kay, D. W. K. (1961). Psychiatric aspects of anorexia and obesity. *Med. Press*, **246**, 68-72.
- ²¹Crisp, A. H., and Stonehill, E. (1967). Hypercarotenaemia as a symptom of weight phobia. *Postgrad. med. J.*, **43**, 721-725.
- ²²Blendis, L. M., and Crisp, A. H. (1968). Serum cholesterol levels in anorexia nervosa. *Ibid.*, **44**, 327-330.
- ²³Rowntree, D. W., and Kay, W. W. (1952). Clinical, biochemical and physiological studies in cases of recurrent schizophrenia. *J. ment. Sci.*, **98**, 100-121.
- ²⁴Kay, D. W. K. (1953). Anorexia nervosa—a study in prognosis. *Proc. roy. Soc. Med.*, **46**, 669-674.