

A CLINICAL AND PSYCHOSOCIAL STUDY OF SEVEN CASES OF ANOREXIA NERVOSA IN SINGAPORE

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SYNOPSIS

Seven cases of anorexia nervosa have been diagnosed and managed by the authors over the last 2 years. Their clinical presentations, psychosocial factors, and response to treatment have been described and compared to Caucasian patients. The impression is that the presentation is generally less severe, but there is a need to study this illness in greater detail by means of a prospective study.

INTRODUCTION

Anorexia nervosa has in recent years been recognised as a psychiatric disorder. Clear-cut criteria defining the illness have been cited. Russell in 1970 (1) proposed three criteria for the diagnosis of this disorder.

- i) Behaviour leading to a marked loss of body weight. There is a deliberate avoidance of "fattening" foods, particularly carbohydrates. Often too, the subject resorts to supplementary devices aimed at the elimination of ingested food, particularly self induced vomiting, abuse of purgatives and excessive exercise.
- ii) Amenorrhoea: menstruation usually ceases after a considerable degree of weight loss but in 10% — 25% of cases it may precede this.
- iii) A characteristic psychopathology: there is a morbid fear of fatness. The patient is preoccupied with the pursuit of a thin body shape. The ingestion of food engenders feelings of guilt or panic as the patient fears that she is "losing control" over her eating and will become fat. Even in the face of severe emaciation the patient denies that she is thin, revealing a severe distortion of her body image. If pressed she will state an unrealistically low weight which is the maximum she would countenance attaining.

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Feighner et al's (2) research criteria is expressed in quantitative terms where a given proportion of possible abnormalities or a certain degree of disturbance, such as the amount of weight loss, should be present. This criteria consists of the factors:

- 1) Age of onset prior to twenty-five
- 2) Anorexia with accompanying weight loss of at least 25% of original body weight.
- 3) A distorted, implacable attitude towards eating, food, or weight that overrides hunger, admonitions, reassurance, and threats.
- 4) No known medical illness that could account for the anorexia and weight loss.
- 5) No other known psychiatric disorder with particular reference to primary affective disorders, schizophrenia, obsessive compulsive and phobic neuroses.
- 6) At least two of the following: amenorrhoea, lanugo, bradycardia, periods of overactivity episodes of bulimia, and vomiting.

Russell (3) in his editorial, favours his criteria for clinical diagnostic purposes and that of Feighner et al as the operational definitions for clinical research.

In Singapore, cases of anorexia nervosa have been diagnosed by both physicians and psychiatrists, but the actual incidence is unknown. In western populations there is evidence that the incidence of anorexia is rising (4, 5). However, in these studies, it is not clear as to what extent these cases reflect changing patterns of referral or new cases. The incidence of the disorder in non western populations has not been investigated but is believed to be low. It is also not known whether or not our local cases conform to the clinical criteria as described. Information and details have been mainly anecdotal and interest in the disease as a separate entity has been minimal.

Considering the fact that in our local population, we have the combustible combination of "eating" being rated as one of our "national pastimes" and the contradictory, cultural fashion for the ideal figure of a "thin body shape", the prevalence of dieting behaviour could be hypothesised to be high. Some evidence of this is seen in the advertisements and publications aimed at our female population. Heuneman et al (6), implicated that the main factors in the operation of the socio cultural genesis of anorexia nervosa, are the frequency of dieting amongst adolescent girls and the vogue for the thin body shape. Garner and Garfinkel (7) in their study of ballet students illustrated that the occupational pressure to maintain a slim figure with an intense competitive need to succeed were the main aetiological factors. There was a definite higher incidence in the more competitive schools. The high degree of competitive feelings in our population is again, another factor frequently commented upon. As such we have intrinsic in our local population some of the established aetiological factors of anorexia nervosa.

We therefore attempted to carry out a retrospective study to establish the incidence, clinical picture, treatment and progress of cases of anorexia nervosa referred for hospital treatment at the Singapore General Hospital over the last five years (ie. 1975-1981). However, this was not possible as cases in the central pool of medical records were not primarily recorded under the diagnosis of anorexia nervosa but under a more common medical complication or psychiatric diagnosis. As such these cases could not be traced and the study had to be abandoned. However, 7 cases were known to the authors who because of their interests had recorded the details. The purpose of this paper is therefore to describe the clinical profiles of these cases as a preliminary report to the prospective study being carried out on new cases that are referred to Singapore General Hospital and Woodbridge Hospital over the next year and the concomitant study of dieting behaviour in

adolescent schoolgirls. This paper gives the necessary background information to the similarities and differences between our local cases and western cases.

THE SELECTION OF PATIENTS

The 7 patients were all seen by the authors over a period of 2 years (mid 1979 — mid 1982) and managed by them. All 7 had been given primary diagnosis of anorexia nervosa. The frequency of referral of these cases were as follows: 1 in 1979, 1 case in 1980, 3 in the first half of 1981, 2 in the second half and the last case in 1982.

CLINICAL ASPECTS OF LOCAL ANORECTIC CASES

General Features

All 7 patients were females and Chinese. Table I summarises the principal clinical data.

The mean age at the onset of dieting was 15.4 years, SD±3.1 years. The average time interval between the development of symptoms and the first assessment by doctors, ranged from almost immediately to four years. However, with the initial assessment by the general practitioner or at the Outpatient's Clinic, all cases were referred to the Singapore General Hospital coming under the care of one of the authors.

Amount of Weight Loss and Devices Used to Achieve this

In all cases the "healthy" weight was noted. This can be defined as the premorbid weight before the onset of dieting and weight loss. By the time of the initial assessment of these patients by the authors the mean loss of weight was 10.88 kg ± SD 2.79 kg. In patients 1, 2, 3, 4 the weight loss was more than 25% of the original weight. In patient 5 the weight loss was 22.2% and in 6 and 7 the weight was even less (17.9% and 16.1% respectively). All admitted to practising some form of dieting restriction as the main device used to achieve weight loss, being more marked in patients 2, 3, 4, 5 and 6 who admitted freely to avoiding anything "fattening" eg. the staple food of rice. Patient 2 had been admitted on one occasion for the complaint of being totally unable to swallow any liquid or solid food for 3 days. Only 2 patients admitted to excessive exercise, another 2 to self-induced vomiting and 1 to abuse of laxatives. No patient showed a combination of these devices. Only patient 2 admitted to "bulimic" episodes in which she would overeat, indulging in several bars of chocolate or packets of chocolate biscuit. However, she did not self induce vomiting but said that she increased her exercise time accordingly. There was a variation too in the degree which the patients expressed their fears of being fat. Patients 1 and 7 denied any such fears.

Physical and Mental Complications

All developed secondary amenorrhoea and all, except for Patient 6, developed this immediately, with the onset of dieting and weight loss. Patient 6, however, developed secondary amenorrhoea after 2 years but again this coincided with the onset of more marked weight loss and excessive dieting than before. The common physical symptoms of lanugo and bradycardia were noted in some cases as was the common psychiatric symptoms of anxiety, depression and obsessional traits.

Psychosocial Data

Table II summarises the main data.

Four out of the 7 girls came from social class I backgrounds and with the exception of patient 7 had achieved

Table 1 SUMMARY OF PRINCIPAL CLINICAL DATA

Patient	Sex	Race	Age (years)			Weight (kg)		Types of behaviour to lose to body weight	Expressed fears of becoming fat	Evidence of over-eating	Secondary Amenorrhoea	Physical signs	Psychopathological manifestation
			Onset of dieting	First referral to any doctor	First referral to authors	Healthy	At first referral to authors						
1	F	Ch	14	16	17	41	27.65	Dietary restraint	Denied	+	Lanugo, bradycardia, ankle oedema	Severe anxiety, mild depression, obsessional personality	
2	F	Ch	14	14	17	45.5	34	Excessive dieting, vomiting? self induced	+	—	Lanugo	Hysterical acting out behaviour	
3	F	Ch	13	14	14	43.2	30	Excessive dieting, excessive exercise	++	+	Lanugo, bradycardia	Moderate anxiety, obsessional symptoms	
4	F	Ch	22	24	24	53.2	39.6	Excessive dieting, excessive exercise	++	—	Lanugo, bradycardia	Obsessional symptoms	
5	F	Ch	14	14	14	45	35	Excessive dieting	++	—	Thin girl	Moderate depression, anxiety	
6	F	Ch	16	20	20	38	31.2	Excessive dieting, vomiting? self induced	+	—	Bradycardia	Moderate depression, anxiety	
7	F	Ch	15	17	17	47.7	40	Dietary restraint, laxative abuse	Denied	—	—	Obsessional personality	

Table II SUMMARY OF PSYCHOSOCIAL DATA

Patient	Social class according to father's occupation	Number of siblings	Birth rank	Family history of psychiatric illness	Family history of weight disorder	Highest educational level achieved	Occupation at presentation	Main problem and as viewed at patient
1	I	2	2	No	No	Sec IV	Schoolgirl	Examination pressures
2	II	7	6	No	No	P.U.I.	School girl	Poor relationship with patients, alleged to have been assaulted by them
3	I	5	1	No	No	Sec III	Schoolgirl	Being separated from parents to pursue education. Examination pressures
4	I	7	5	No	No	Sec IV	Secretary	Poor relationship with parents
5	I	3	2	No	No	Sec II	Schoolgirl	In interview patient volunteered that parents were taking "too much care of her"
6	IV	7	5	No	No	Sec IV	Technician	Work pressures in SAF
7	IV	3	1	No	No	Never educated	Waitress	Patients felt mother too overprotective

secondary education. Patient 7 is unusual in that she has never been educated. The reason she gave was that she was apparently brought to be registered at school at age 7 but was told that there was no vacancy. As a result, she was never educated. From Table II, it can be seen that the pressure at school or work and a poor relationship with parents seem to be the recurrent themes reported by these patients as being their main difficulties. There is no evidence of any family history of psychiatric or weight disorders in the series.

Treatment and Progress

Table III summarises the treatment and progress of the 7 patients. Patients 1 and 4 have been on treatment for 3 years respectively and were still currently on treatment. They contrast in the fact that whereas patient 4 responded to her period of inpatient treatment and since then has managed to maintain her weight and resume menstruating, patient 1's weight has remained at the 36.7 kg mark and is still amenorrhoeic. Patient 2 had also resumed menstruating at the time of her last review at a weight of 48.5 kg, after 8 months of treatment. Unfortunately no treatment alliance were formed with patients 5, 6 and 7. Patient 6 stopped coming for further follow up when she was encouraged to continue her treatment as an inpatient. At the last review there was no improvement in her weight but a definite improvement in her depressed mood as she has responded to a trial of Imipramine. Patient 7 never turned up after the first interview, throughout which she denied that she had any illness and patient 5's parents refused to accept that their child was ill in anyway. Patient 3 is still currently in treatment and in 4 months has managed to regain her weight back to her former healthy weight but is still amenorrhoeic.

Illustrative Case Histories

The case histories of patients 1 and 3 have been recorded as they represent 2 presentations of the anorexic illness.

Patient 1

Patient 1 was referred from the gynaecologist at Kandang Kerbau Maternity Hospital where she was undergoing treatment for her amenorrhoea. She gave the history that soon after her secondary II examination, she started to complain of a severe loss of appetite. She therefore reduced her food intake but said that she was still eating 3 meals a day, her average diet consisted of: breakfast: 1 bowl of cereals and a glass of milk; lunch and dinner: 1 bowl of rice with vegetables and fish or meat. She denied avoiding any particular food and denied having any desire for a thin body image. However, her weight decreased rapidly and within the year had dropped from 41 kg to 26 kg. She developed amenorrhoea and soon stopped school (at the end of secondary II school year). She was treated by a private gynaecologist and managed with his support to regain weight up to 37 kg where upon she started menstruating and returned to school. However, within 4 months, her weight fell again to 28 kg and she once again developed amenorrhoea. This time she was referred to a private psychiatrist and physician who treated her with large doses of vitamins. She was again taken off from school and her weight steadily increased.

This time, however, she remained amenorrhoeic, though her weight went up to 35 kg. She then returned to do her 'O' levels and lost 7 kg by the time of her mid-year exams. She was then referred to the Kandang Kerbau Maternity Hospital for treatment of her secondary amenorrhoea and then referred on here. At the initial assessment she weighed 27.65 kg. She admitted that she was thin and expressed a

Table III SUMMARY OF TREATMENT DATA

Patient	Length of time in treatment	Time in inpatient treatment	Lowest weight during treatment (kg)	Highest weight during treatment (kg)	Status at time of last review
1	4 years, currently still in treatment	3/52	26	37	Still amenorrhoeic weight 36.7 kg
2	8 months	3 admissions of 2/52; 11/7 and 5/7	31.1	43	Menstruated during last inpatient admission, weight 43.9 kg. Absconded from follow up on discharged
3	4 months, currently still in treatment	—	30	40.9	Managed to put weight back to healthy weight in 4 months. Still amenorrhoeic
4	3 years, currently still in treatment	4/52	42	53	Managed to maintain increase in weight achieved during inpatient treatment
5	3 days, absconded	3/7	35	35.2	Parents did not feel that child was ill, therefore took child home after 3/7. No follow up
6	2/12	—	31.2	32.3	No improvement in weight but improved mood on tricyclic antidepressants
7	1 interview	—	NA	NA	Refused to admit that anything was wrong

desire to put on weight. There was no expressed desire at any time for a thin body image. She was also found to be moderately depressed and to have many obsessional traits. She agreed to see the consultant physician but refused to cooperate with any psychotherapeutic interaction. Her weight has remained at 37 kg and she is still amenorrhoeic. Though she achieved distinctions in every 'O' level subjects that she took, she has left school altogether as she subjectively feels that the pressure she feels at examinations is the major factor to her weight loss.

Patient 3

This patient became anorexic when she came down to Singapore from Taiping for her secondary education. She had always been top of her class and was therefore given a place in the Nanyang Girls' School. Initially she was very homesick as she was living with a landlady and also admitted to feeling more anxious than before over examinations. However, during the first term she put on weight and says that this was due to the fact that she was eating "a lot of favourite foods whenever I felt sad". During the first term holidays she was teased that she was "fatter" by her mother, siblings and servants and decided to lose weight. On returning to Singapore to resume her studies, she lost weight by drastically cutting down her food intake and by increasing her exercise time. By the 1st term holidays her weight loss was not noticeable and she was therefore admitted to Penang Medical Centre for a check-up. The diagnosis made was that of depression and probable anorexia nervosa. When she started school again in 1980, her weight loss was very marked, that she was referred to our unit. On initial assessment, she weighed 30 kg, but though admitting that she was thin also kept insisting that she was not too thin. She was also very afraid of putting on weight and of "loosing control" if she ate and therefore avoided eating any fattening food.

She reached her menarche in December 1981, had her 2nd period in January 1982 and was amenorrhoeic after that, even though there was no weight loss but in fact her weight had increased. She also admitted to an irresistible urge to overeat and at those times would subsequently increase her exercise time in order to prevent an increase in weight. At the time of initial assessment, she was given the Eating Assessment Test and scored 48 points, which is well in the anorexic range as defined by Garner and Garfinkel, (8) in their Eating Attitude Test.

Her weight gain has been rapid, and she is now back at her healthy weight in a period of 4 months. However, she is still amenorrhoeic and continues to express a lot of distress with regards to her body size. The future course of her illness is being monitored closely as the possibility of her losing weight again is high and that the bulimic episodes may lead to more complications.

DISCUSSION

The major disadvantage of describing a series of patients like this, is the very small numbers involved. It is tempting to say that since all the authors were actively on the lookout for these cases, these small numbers may be reflective of a low incidence of anorexia nervosa in our local population. This is to some extent substantiated by anecdotal evidence obtained in discussions with other psychiatrists and physicians.

Essentially the local clinical picture runs true to form, conforming to the diagnostic criteria laid down by Russell (1) and Feighner (2). However, our local cases seem to present in a less severe manner when compared to western cases. The main device used by the patients in this series for controlling their weights was mainly by dietary restriction and only rarely did they supplement this with other devices,

and in no instance was there the combination of those additional devices. Amongst western cases, investigators (9, 10) have been struck by the frequency of self induced vomiting combined with purging. The two cases in this series that admitted to vomiting both denied that it was self induced but said that it occurred spontaneously as a result of eating but both also refused to give any details to the vomiting episodes except to say that it occurred relatively infrequently. Both too denied any abuse of laxatives and of indulging in excessive exercise. The only case that described experiencing an irresistible urge to overeat (bulimia) did not follow it up with the more drastic measures of self induced vomiting or purging but instead increased her exercise time. This was somewhat ineffectual as can be seen by the fact that she has regained weight rather rapidly and has become very distressed as she views this as "loosing control". She also expressed a morbid fear of becoming fat. Russell (11) categories a subtype or variant form of anorexia nervosa which he calls "bulimia nervosa" according to two criteria:

- i) an irresistible urge to overeat followed by self induced vomiting and purging, the latter being secondary devices used by the patients to counteract the effects of overeating and to prevent a gain in weight and
- ii) a morbid fear of becoming fat.

Patient 3 therefore fits into this category and it will be interesting to see if she develops into the more severe clinical picture. There also seems to be less distortion of body size, in our patients, in that all 7 girls admitted to being thin, though all but patient 1 also admitted to the desire for a thin body image.

It is interesting also that patients 2 and 4 on being restored to their healthy weights began to menstruate almost immediately. It is a common observation that many patients with anorexia nervosa despite being restored to their healthy weights for many months or sometimes years, fail to resume normal cyclical menstrual activity. Wakeling et al (12) have shown that in only a few of these patients, clomiphene may initiate an ovulatory response, in others it fails to do so.

From the psychosocial data of these cases, there is a predominance even in this series of social classes I and II. This again runs true to form in that most studies report a higher incidence in these social classes (13, 14). It has been postulated that a higher rate of slimming and concern about weight may in part explain this tendency, as although obesity is more common amongst working class women they are on the whole much less worried about it.

In Singapore too, it is known that there are racial differences in the appreciation of the female shape as Indians and Sheikhs prefer their women fat. All patients in this series were Chinese. It would be interesting to see if this illness does occur in the other races.

As mentioned, family factors such as poor relationships with parents and social factors of pressures of work and examinations, are viewed by these patients in this series as their main problems. The relationship between the anorexic and her parents have been commented upon by Bruch (15) and by Minuchin et al (16). The latter described the process of "enmeshment" or overinvolvement of family members amongst the dynamics in such families. Our patients seem to be reporting such dynamics too. Anecdotal evidence has reported examination pressures as a major precipitating factor, as the typical example is that of the teenage girl who strives to top her class with an obsessional drive and develops anorexia nervosa in the process. The general dynamics active in our local cases seem apparently to be similar to the factors working amongst western populations. The treatment of anorexia nervosa is now well established by Russell (1) and by Crisp

(9). However, the treatment that is available to our local cases is not as thorough as the regime recommended. Russell (1) describes a general regime of inpatient treatment, refeeding under tight nursing supervision, restrictions on activities with the final goal of weight restoration and a return to normal biological functioning. During this a treatment alliance is formed between the anorexic patient and the doctor with longer term aims of preventing future weight loss, and to obtain relief from the psychopathological disturbances. Bruch (15) concludes that this approach is essentially a psychotherapeutic one. As our wards are not as yet geared to these procedures, our treatment approach is much less stringent. However, patients 2 and 4 both responded during their inpatient periods but unfortunately patient 1 has not.

At this stage there is therefore a need to evaluate several aspects of anorexia nervosa in our local population in greater detail. There is a need to describe the clinical picture in even greater detail. There is a need to formulate a treatment regime suitable for our cases in terms of inpatient supervision, diet and calories control and ongoing psychotherapy. There is also a need for a follow up study to work out the prognosis and natural course of the illness. If the original hypothesis, that the combination of the factors of eating as a natural pastime, strong competitive feelings and the vogue for a thin body image does produce cases of anorexia nervosa — then by means of the prospective study this information can be elicited.

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