

## Cutaneous Manifestations in Male Anorexia Nervosa: Four Cases

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Sir,

Anorexia nervosa (AN) in males accounts for approximately 6% of cases seen in an eating disorder clinic (1–4). However, it may be underdiagnosed because many physicians, as well as the anorexics themselves, are unaware that this condition occurs in both sexes.

Little is known about the causes of AN in males, but some risk factors are the same as those for females. These are the product of biopsychosocial components, e.g. certain occupational goals and increasing media emphasis on external appearance in men (intense physical activity). Moreover, homosexual males wish to conform to an ideal body weight that is about 20 pounds lighter than the standard “attractive” weight for heterosexual males.

Amenorrhoea for at least 3 months is a required sign for the diagnosis of female AN. In the International Classification Disease 10 (ICD 10, 1992 of the World Health Organization), the equivalent required sign for the diagnosis of male AN is the loss of sexual interest and potency (5). If onset of AN is prepubertal, the sequence of pubertal events is delayed or even arrested.

AN in males may be characterized by very low values of BMI (body mass index), lower than in females, and consequent severe systemic involvement due to the fact that the condition may be observed later than it is in women in whom amenorrhoea is a recognizable sign. Endocrine disturbances in the pretreatment male anorexia include decreased testosterone and gonadotrophins in proportion to weight loss. With weight gain, both testosterone and gonadotrophins generally increase to normal levels even if, in some cases, functional gonadic damage may persist. The decreased testosterone may also play a role in the depression of the bone marrow. In male AN, medical disorders such as anaemia and abnormal liver function are common. Prognosis is considered worse for male anorexics. Male AN usually belongs to the restrictive type, without inappropriate compensatory behaviour, such as self-induced vomiting, laxative and diuretic abuse.

Skin signs in eating disorders have been studied extensively, but to the best of our knowledge the data are almost exclusively referred to females (6–10). We report four cases of male AN with cutaneous manifestations.

### MATERIAL AND METHODS

At our Eating Disorder Centre, 492 females and 6 males were examined over a period of 4 years. Among these males, only 4 fulfilled the criteria of DSMIV (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Washington,

DC: American Psychiatric Association, 1994) for the diagnosis of AN. The average age of males was 25 (higher than in females) and their average BMI was 14.89 (n.v. = 19–24). The restrictive type of AN was detected in all cases.

The patients were hospitalized and a complete medical, psychiatric and laboratory examination was carried out. The Eating Attitudes Test-40 (EAT-40), Eating Disorder Inventory-64 (EDI-64) and Body Attitude Questionnaire (BAQ) were used, along with complementary clinical and sociodemographic data, including body weight, height and BMI. Moreover, the Beck Depression Inventory (BDI), and the Centre for Epidemiological Studies Depression Scale (CES-D) as an alternative test, and the State-Trait Anxiety Inventory (STAI-Y1 and Y2) were administered.

Because of the multiple determination of AN and the risk involved, treatment was carried out by a multidisciplinary team. Hospitalization was systematized in three stages comprising: clinical and nutritional approaches, individual psychotherapy, family therapy, occupational therapy, body therapy and pharmacotherapy. A dietary diary and a dietetic regimen were established. A complete dermatological examination was made during the hospitalization and follow-up.

### RESULTS

The clinical characteristics of the patients are summarized in Table I. Psychiatric evaluation demonstrated severe depression in all cases. Three patients (cases 1, 3 and 4) had schizoid or borderline personality disorders. Internal medicine evaluation and laboratory tests showed severe multisystemic involvement in all cases but one. Red blood cell count and cardiovascular system were mostly compromised and, in case 2, the condition was life-threatening because of the gelatinous transformation of bone marrow (rare disorder of unknown pathogenesis, characterized by fat cell atrophy, focal loss of haematopoietic cells and deposition of extracellular gelatinous substances). Endocrine involvement was characterized by low testosterone level (cases 1 and 2) and by high serum cortisol (case 4). Diffuse purpura, mainly localized on the trunk and forearm, and oedema of the legs were detected in case 2, whose general condition was severe. The same patient had pale skin and marked xerosis. Striae distensae, hyperpigmentation and xerosis were detected in the other cases. The severity of the cutaneous manifestations was related to the severity of the internal pathology. They improved in relation to the improvement in the laboratory tests.

### CONCLUSIONS

It is known that eating disorders display common and unique dermatologic characteristics. In anorexic females, cutaneous manifestations have been classified into four groups: 1) findings caused by starvation and

Table I. Clinical characteristics of four male patients with anorexia nervosa

Age	BMI	Psychiatric evaluation	Internal medicine	Skin changes	Follow-up
31	12.4	Schizoid personality. EDI=24. BAQ=23. CES-D029 (Cut-off=23) depressive status evaluation	Low blood pressure, bradycardia, Leucopenia (2800/mm <sup>3</sup> ), hypercholesterolaemia, Testosterone=196 (inferior level=270)	Xerosis, striae distensae, hyperpigmentation	After 1 year: BMI=14.5 Skin striae distensae
20	13.5	BDI=46 (severe depression). EDI=82. BAQ=62 (Cut-off 50)	Cachexia, severe oedema, Severe panctopenia, decreased T-lymphocytes, decreased gammaglobulins, hypoalbuminaemia, decreased free testosterone, mild liver cytolysis. Bone biopsy: Gelatinous bone marrow.	Purpura, leg oedema, xerosis	After 1 year: BMI=21.5 Decreased testosterone (free and total), low LH, osteopenia. No skin changes
23	16.2	Schizoid personality. EDI=55; BAQ=44 BDI=29 (mild depression)	Asymptomatic	Xerosis	After 6 months: BMI=18.5 No skin changes
26	17.5	Borderline personality. Severe depression. EDI, BAQ and BDI not performed	Bradycardia, low blood pressure Leucopenia, ALT=473, (0–40); serum cortisol=28.7 (4.3–22.4) Liver biopsy: mild lymphocytic infiltration, haemosiderosis	Pale skin, lip xerosis, mild alopecia, hyperpigmentation Striae distensae.	After 1 year: BMI=18.5 Skin: striae distensae

BMI: body mass index, EDI: eating disorder inventory, BDI: Beck depression inventory, BAQ: Body attitude questionnaire.

malnutrition; 2) findings caused by self-induced vomiting; 3) findings caused by drug consumption; and 4) findings caused by concomitant psychiatric findings (6–10). Some skin manifestations, such as lanugo-like body hair, Russell's sign (calluses on the dorsal aspects of the hands induced by the patients due to frequent repeated introduction of the hand into the mouth), perimyolysis (dental enamel erosion due to vomiting) and self-induced dermatitis have been identified as "guiding signs" useful for the dermatologic diagnosis of eating disorders. Owing to the prevalence of the restrictive type of male AN, with no vomiting and laxative abuse, skin signs due to vomiting such as Russell's sign and perimyolysis were absent. Lanugo-like body hair, which often develops on the chest and arms of anorexic women, was either difficult to evaluate in men or was absent. Moreover, skin signs that are frequent in women, such as opaque and fragile hair, nail fragility, angular cheilitis, acne and self-induced dermatitis were absent in our patients. We did not, therefore, identify any dermatologic guiding signs which could lead to an early diagnosis of AN in males. In our patients, skin changes were the expression of severe multisystemic involvement. When the patients improved, the skin also improved.

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