

Fox-Fordyce Disease: Two Cases in Patients with Turner Syndrome

Sir,

Fox-Fordyce disease (FFD) occurs as a chronic, itchy, papular skin eruption principally located in the apocrine gland-bearing areas (1, 2). Although it usually appears in a symmetrical distribution on the axillae and pubic area, it can also occasionally affect the labia, perineum, mammary areolae, presternal area, umbilicus and the medial aspect of the upper thighs. Hair growth in the affected regions is sparse or absent. Apocrine sweat is not produced at the orifices of follicles of the affected glands. Sometimes intense itching is present, apparently activated by intense sweating or by emotional excitation. More than 90% of reported cases have been observed in women between 13 and 35 years of age. The histologic picture is characterized by obstruction of the apocrine duct at its entrance into the follicular wall. The aims of this paper are to report two cases of FFD in two patients with Turner syndrome under treatment with growth hormone (GH) and to speculate as to whether these two conditions are correlated in any way.

CASE REPORTS

Case 1

A white 18-year-old girl was first seen in October 1992 for the evaluation of melanocytic naevi. The patient had been under observation since the age of 12 for short stature due to Turner syndrome. She had growth hormone (GH) deficiency and absence of ovaries; karyotype analysis was 45, X/46, Xi (Xq). The patient had been treated with GH 1 U/kg/week for 5 years in association with etinil-estradiol 100 ng/kg/day for the previous 3 years. In the previous 2 years, oxandrolone 0.05 mg/kg/day had been added. At the time of our observation, the patient was still undergoing these 3 therapies and had a follicle-stimulating hormone value of 79.45 MIU/ml (normal value 3.7–10.5) and a luteinizing hormone value of 15.8 MIU/ml (normal value 1.6–10.0) as determined by fluoroimmunoassay kit (Eurogenetics). She was 142 cm tall. Besides numerous melanocytic naevi, she had firm, flesh-coloured, smooth, round, follicular papules located on both axillae. These papules ranged between 1–3 mm in diameter; axillary hair growth was sparse (Fig. 1). The patient had complained of mild itching for several years. A diagnosis of FFD was made from the clinical pattern. There was no family history of the disease. Treatment with 0.1% tretinoin cream for 4 weeks produced a marked reduction in pruritus, a mild regression of the papular lesions and an increase in hair growth.

Case 2

A 16-year-old girl was referred to us in 1996 for pseudotinea amiantacea of the scalp. She was affected by Turner syndrome (karyotype 45 XO) and had been under observation since birth.

Laboratory and instrumental investigations revealed a double renal pelvis, left polycystic kidney with functional hypertrophic right kidney, bicuspid aortic valve without functional failure and an increase in thyroid hormone level with positive antitreoglobulin and antimicrosomal autoantibodies as a result of a previous autoimmune thyroiditis. Since 1990 she had been treated with GH 1 U/kg/week. Her stature at observation was below the third centile (145 cm), while her follicle stimulating hormone value was 80.05 MIU/ml (normal value 3.7–10.5) and her luteinizing hormone value was 18.8 MIU/ml (normal value 1.6–10.0) as determined by fluoroimmunoassay kit (Eurogenetics). Since 1990 she had had elevated levels of follicle stimulating hormone. Physical examination revealed a pseudotinea of the scalp, some melanocytic naevi of the trunk and limbs as well as numerous erythematous, dome-shaped, shiny follicular papules, 2 mm in diameter, on the pubic



Fig. 1. Fox-Fordyce disease in the axilla of patient 1. Note multiple, discrete, round, dome-shaped, follicular papules. Hair growth is sparse.

area. Groin hair growth was normal and the patient did not complain of any symptoms. There was no family history of a similar disease, and we decided not to treat the dermatosis. Histopathology showed massive infundibular hyperkeratosis associated with lymphocytic exocytosis and mild spongiosis. These pathological changes were consistent with FFD.

DISCUSSION

Shelley & Levy (2) emphasize that the keratinous obstruction of the upper limits of the apocrine duct is the earliest identifiable change in Fox-Fordyce disease. The disorder may be explained as a special form of apocrine sweat retention (apocrine miliaria). Recently, Ranaletta et al. (3), in an analysis of several biopsy specimens, observed that some spongiotic vesicles are present not only in the follicular infundibula, but also in the eccrine gland acrosyringia. In addition, genetic influences probably play a role, since FFD has been reported in two members of the same family and in male identical twins (4, 7). The most important skin manifestations of Turner syndrome are the tendency toward keloid and hypertrophic scar formation, increased number of melanocytic naevi, seborrhoeic dermatitis, dry skin, anomalies of dermatoglyphics of the fingers and hypoplastic nails. Until now we have not found FFD in the group of cutaneous manifestations of Turner syndrome in the literature, and we have never observed any other case of FFD associated with Turner syndrome or in therapy with GH for short stature associated with idiopathic GH deficit.

The rarity of FFD in clinical practice could, in our opinion,

be due to the fact that patients attribute little importance to light anomalies when asymptomatic, as in one of our cases. This association between FFD and Turner syndrome may be casual, but it could also be hypothesized that the peculiar genetic condition of Turner syndrome and the particular hormonal alterations may make Turner patients favourable to FFD. In fact, elevated follicle stimulating and luteinizing hormone levels are frequently present in patients with Turner syndrome because of their insufficient sexual hormone levels. Follicle-stimulating hormone has been considered an aetiological factor in FFD (5, 6). In addition, our two patients had been treated with growth hormone alone or in combination with sexual hormones.

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Successful Treatment of Generalized Granuloma Annulare with Polyethylene Sheet Bath PUVA

Sir,

PUVA therapy is known to be a successful mode of treatment for a number of inflammatory dermatoses, including psoriasis, atopic dermatitis, mycosis fungoides, and for generalized granuloma annulare (GA) (1). The usual oral administration of 8-methoxypsoralen (8-MOP) is associated with side-effects on the internal organs and eyes (2). As an alternative, attention has recently been focused on the delivery of 8-MOP via the patient's bath water, since this treatment modality enhances the efficacy and safety of the standard PUVA technique (3, 4). The main drawback of bath PUVA is the high cost of liquid 8-MOP preparation. The use of a polyethylene sheet to reduce the volume of bath water can reduce the cost of the treatment by 90% (5). We describe a patient with generalized GA who was successfully treated with polyethylene sheet bath PUVA.

CASE REPORT

A 50-year-old man had an asymptomatic papular eruption for 18 months. It began on the trunk and gradually spread to the extremities and became generalized. His general health was good and his personal and family history was unremarkable. Examination revealed numerous, arcuate red-purple papules varying from 3 mm to 7 mm in diameter. The papules were solitary or coalesced and distributed over the trunk and extremities (Fig. 1). The scalp, palmar and plantar surfaces were not involved. He had a type III skin.

The results of routine laboratory studies were within normal values (complete blood count, erythrocyte sedimentation rate, serum glucose, ions, liver enzymes, C-reactive protein, antistreptolysin-O-titre and urinalysis). Chest X-ray and abdominal ultrasound were also normal. Histological examination of an excised papule showed circumscribed necrobiotic foci of degenerated collagen fibres in the upper dermis, surrounded by palisading inflammatory cells. The infiltrate consisted mainly of histiocytes and a mixture of monocytes, foreign-body type giant cells, some lymphocytes and fibroblasts. The diagnosis of general-



Fig. 1. The patient's trunk showing generalized GA. Note the widespread arcuate red-purple papules varying from 3 mm to 7 mm in diameter.