KLINEFELTER'S SYNDROME AND HYPOSTATIC LEG ULCERATION

K B Lim
W L Lee
Mary Daniel
T Thirumoorthy
Tulip Tan

Middle Road Hospital
Singapore 0718

K B Lim, MRCP (UK), Dip Ven (Lond)
Registrar

W L Lee, MBBS
Medical Officer

Mary Daniel, MBBS
Medical Officer

T Thirumoorthy, MRCP (UK), Dip Ven (Lond), AM
Senior Registrar

Tulip Tan, FRACP, AM
Medical Director

SYNOPSIS

The association of Klinefelter's Syndrome and Hypostatic leg ulcers is not widely realised despite previous reports. We therefore report 2 cases to illustrate this association and further emphasize the early onset of ulceration in these patients.

INTRODUCTION

Hypostatic leg ulceration is a common dermatosis accounting for 0.4-3% of all new cases seen in dermatology clinics (1). It is predominantly a disease of middle-aged or elderly women and its onset in young adult males is uncommon and should signal the need to exclude underlying vascular or gonosomal abnormalities.

The association of hypostatic leg ulcers and gonosomal anomalies like Klinefelter's Syndrome is not widely appreciated. We, therefore, report 2 patients with Klinefelter's Syndrome and hypostatic leg ulceration to further illustration this association.

CASE REPORTS

Case 1 (Figure 1)

LCH is a 25-year old Chinese male with recurrent hypostatic leg ulceration since the age of 20 years. A venogram performed in 1980 revealed mild varicosities with intact perforators but a split skin graft was unsuccessful.

He was admitted to Middleton Hospital in October 1983 for treatment of infected right medical malleolar ulcer and surrounding stasis eczema. Following improvement with antibiotics and daily eusol dressings, he was discharged to follow-up in the outpatient clinic at Middle Road Hospital. In December 1983, he underwent stripping of right sided varicose veins but developed wound infection and ulceration 2 weeks post operatively. He was re-admitted for inpatient treatment in May 84 after further deterioration.

Examination then revealed moderate obesity, gynaecomastia, an atrophic right testis, absent left testis and scanty axillary and pubic hair. His overall height measured 6 foot 2 ins with an upper segment to lower segment ratio of 0.95. A purulent 5 cm diameter ulcer was present above the right medical malleolus and 2 small 0.5 cm diameter ulcers were present above and below the left medical malleolus. Stasis eczema was present on the right leg and cellulitis on the left. Arterial pulses were fully palpable.

Routine haematology, biochemistry including fasting blood sugar, treponemal serology, Rose Waller, Anti nuclear factor and chest x-ray were normal or negative. Buccal smear was x-chromatin positive and chromosomal analysis revealed XXY karyotype. Gonado trophins were elevated and approached female levels with FSH 26 IU/1 and LH 20.7 IU/1 (normal values for males being unavailable). Testosterone level was low at 3 mg/ml (3-10 mg/ml) and 24 hr urine for 17 ketosteroids were also reduced at 8.5 mg/d (9-22 mg/d). Seminal fluid analysis revealed azoospermia.

In the ward, he developed superficial thrombophlebitis of the left leg but this subsided with indomethacin tablets. His leg ulcers and cellulitis responded to daily eusol dressings and antibiotics and he was discharged significantly improved 5 weeks later.

Case 2 (Figure 2)

TCH is a 57-year old Chinese male with a history of stasis dermatitis since his early 20s. This was complicated by recurrent ulceration and he required hospital admissions in 1975, 1979 and 1983. During his last admission, he was noted to be obese and disproportionately tall.

Further examination revealed gynaecomastia, atrophic testes and scanty pubic and axillary hair. His overall height measured 5 foot 10 ins with an upper segment to lower segment ratio of 0.94. Bilateral varicose veins of moderate severity were present together with multiple 2-3 cm diameter ulcers above the medical maleoli (Fig. 3). The surrounding skin showed hyperpigmentation and eczematous changes consistent with stasis dermatitis. Arterial pulses were fully palpable. Bilateral hallux valgus and osteoarthritis of both knees were also noted.

Buccal smear was X-chromatin positive and chromosomal analysis revealed XXY karyotype consistent with a diagnosis of Klinefelter's syndrome. Treponemal serology routine haematology, biochemistry including blood sugar and chest x-ray were normal or negative. X-ray of both knees cofirmed osteoarthritis. The patient refused phlebography.

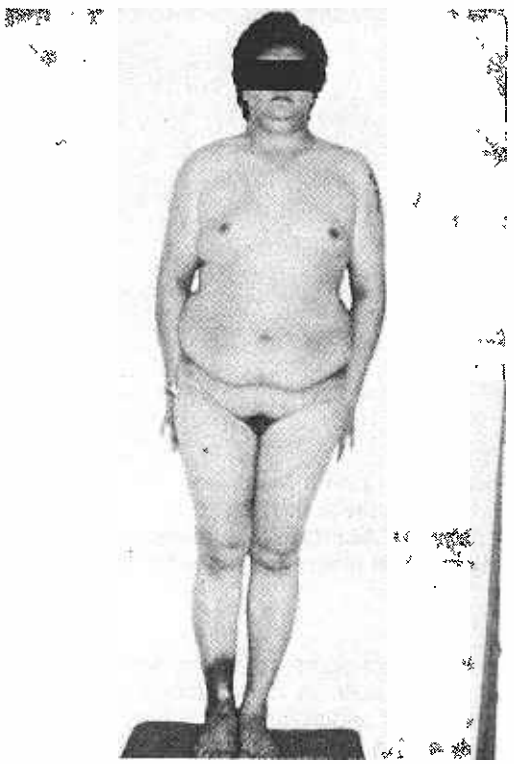

Figure 1: Case 1 showing Klinefelter's Syndrome. Note obesity, gynaecomastia, underdeveloped genitalia, stasis dermatitis and mild varicose veins.

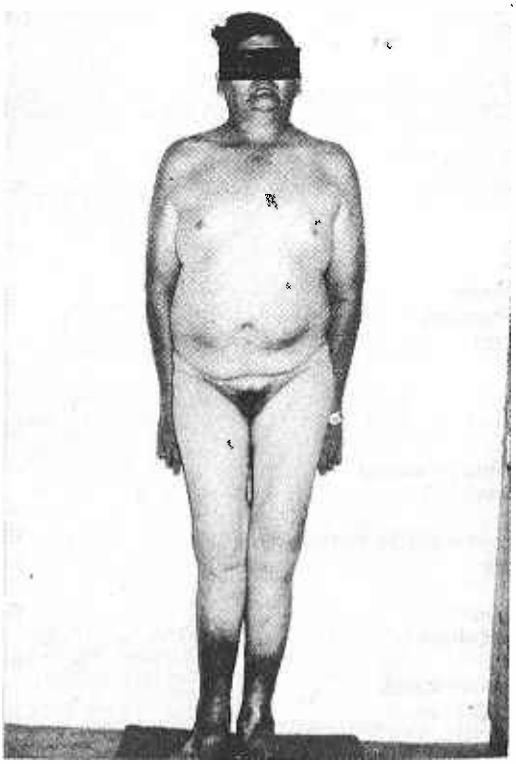

Figure 2: Case 2 showing Klinefelter's Syndrome with obesity, gynaecomastia and underdeveloped genitalia. Stasis dermatitis and hypostatic ulcers are also present.

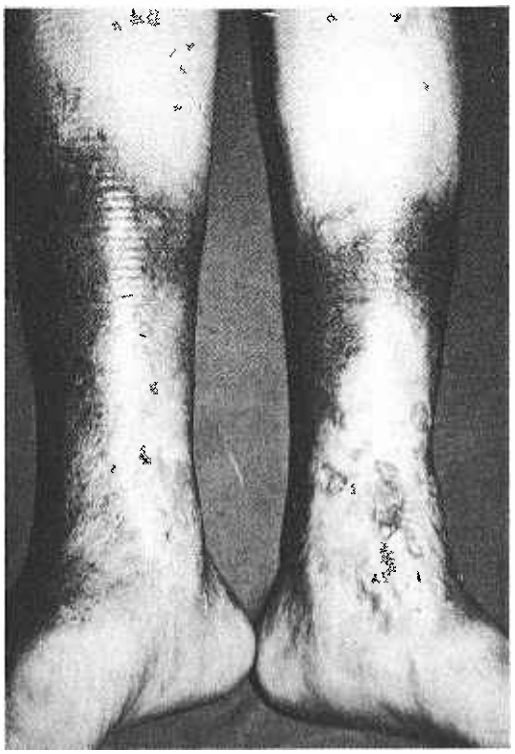

Figure 3: Case 2 showing stasis dermatitis and hypostatic ulcers.

DISCUSSION

Hypostatic leg ulceration predominantly affects women. Coon et al (2) in the Tecumseh Community Health Study found that hypostatic ulcers were 3 times more common in females compared with males. The prevalence rates were 0.3% and 0.1% respectively. Furthermore, all cases of hypostatic ulcers occurred in individuals over the age of 40 years. The early onset of hypostatic ulcers in our patients would have been most unusual had it not been for the fact that they were cases of Klinefelter's syndrome. Such an association of Klinefelter's syndrome and hypostatic leg ulcers has been reported by several authors (3, 4, 5, 6). Campbell et al (6) reported a 6% prevalence of hypostatic ulcers in 412 patients with Klinefelter's syndrome and this was 20-50 times higher than in the general population.

The reasons for the increased prevalence of hypostatic ulcers in patients with Klinefelter's syndrome, however, are unclear. Oestrogens and androgens have been known to affect the vasculature of man and it has also been postulated that the balance between oestrogens and androgens may be equally important (7, 8). The possible role of hormonal factors in the aetiology of hypostatic leg ulcers in Klinefelter's syndrome has therefore been suggested (9). The occurrence of hypostatic ulcers in other hypogonadal states, eg Werner's syndrome (10) and the Prader-Willi Syndrome (4) also support this hypothesis. Monk and Pembroke (11) recently reported a case of chronic hypostatic leg ulcers in a man with profound hypogonadism following excision of a pituitary tumour. Klinefelter's syndrome and other hypogonadal states should therefore be considered in young men presenting with chronic hypostatic leg ulcers.

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