

between TS and arthritis may be tied to the serum hormone levels in these patients. Recent studies have shown the effects of sex steroids and neurohypophyseal hormones on immunity and autoimmunity (4). Radiographic osteopenia is a frequent finding in TS (5). It is suggested that this is not an intrinsic feature of TS but results from extreme oestrogen deprivation (6). Our patient had a chronic inflammatory disease affecting the musculoskeletal system which in the end may possibly have exerted an additional effect on the development of severe osteoporosis.

In TS, the diagnosis of arthritis is usually delayed because the joint symptoms are assumed to be related to the syndrome itself and not to an inflammatory arthritis (1). This case highlights the relationship between TS and different rheumatological conditions. Clinicians should therefore be aware of the possibility of an inflammatory process in their patients with Turner's syndrome in order to make an early diagnosis. The possibility of sacroiliitis and spondylitis should also be kept in mind in the follow-up of TS patients.

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Femoral head osteonecrosis after topical corticosteroid therapy

Sirs,

Femoral head osteonecrosis as an adverse effect of topical corticosteroid therapy has been reported in two cases in the medical literature (1, 2). We encountered recently the case of a 43-year-old man who presented with a 2 month history of left hip pain. He complained of a dull, 'toothache-like' pain in the front of the left hip and thigh. The pain had been gradual in onset and, although at first helped by rest, became almost constant causing an antalgic limp. His medical history showed that he had for the last 10 years been followed for diffuse psoriasis in a dermatology department. He was treated first with methotrexate and topical betamethasone dipropionate. Eight years ago he interrupted his visits to the dermatologists, discontinued methotrexate and used to apply topical betamethasone dipropionate twice daily all over his body. He had no history of trauma or alcohol intake.

Physical examination showed a severe and diffuse psoriasis. Rheumatological examination revealed that he walked with a slight left-sided antalgic gait. He had a discrete limitation in range of motion of internal rotation of the left hip. Laboratory tests showed ESR 10 mm/1st hr, and a white cell count and haemoglobin in the normal range. Serum levels of cholesterol, triglycerides, glucose, and uric acid were in the normal range. Rheumatoid factor was negative as were antinuclear antibodies. Pelvic x-rays and CT scan showed evident osteonecrosis of the left femoral head (Fig. 1). The sacroiliac joints were normal. Treatment consisted first of analgesics and the suppression of weight bearing. One month later, a core decompression of the left hip was carried out.



Fig. 1. CT scan of the left hip showing evident osteonecrosis of the femoral head.

Systemic side effects of topical corticosteroids are rare, but may occur especially in children and elderly patients (3). Possible adverse systemic effects are related directly to such factors as the application site, duration of application, potency, and occlusion of the medication. The application of high-potency corticosteroids should be limited, when possible, to a twice-a-day basis for 3 to 4 weeks. Physicians must also be aware of increased transcutaneous penetration in certain areas of the body with thin epidermis, such as the eyelids, periorbital area, axillas, crural region and genitalia. A patient with an integumentary perturbation, such as an exfoliating dermatitis (e.g. diffuse psoriasis as in our case), has a much greater amount of percutaneous penetration (4,5). Long and frequent application carries the risk of suppressing the hypothalamic-pituitary-adrenal axis and even producing Cushing's syndrome, especially in very young patients (6).

In our patient, the only predisposing factor for femoral head osteonecrosis was topical betamethasone dipropionate, which had been used for about 10 years on a daily basis and applied over a large part of the body surface because of a severe psoriasis.

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