We believe that hypercalcaemia after tamoxifen may signify tumour response and be a reason for continuing with tamoxifen and treating the hypercalcaemia. This is supported by a report of tamoxifen "flare" in metastatic breast cancer and the observation that acute exacerbation of bone pain in patients with breast cancer after tamoxifen may be associated with tumour response. The mechanism of tamoxifen-induced tumour response needs further investigation, since acute hypercalcaemia is not seen in patients responding to chemotherapy or oophorectomy.

Requests for reprints should be sent to Professor M H N Tattersall.

Hydralazine-induced SLE-like syndrome presenting as a leg ulcer

The use of hydralazine for systemic hypertension may be complicated by a syndrome resembling systemic lupus erythematosus (SLE) in 10-15% of patients after cumulative doses exceeding 100 g.1 We describe a patient who presented with a painful leg ulcer.

Case report

A 50-year-old man admitted in January 1979 had a nine-week history of a painful ulcer above the right heel, which had steadily enlarged and prevented walking. He had a nine-month history of symptoms suggestive of Raynaud's phenomenon, joint pains for three months, malaise for six weeks, and an itch rash over the left shin and forearm for one week. Malignant hypertension was diagnosed in 1970 (blood pressure 250/130 mm Hg) and treatment instituted with debrisoquine. In 1976 he was admitted with a blood pressure of 270/180 mm Hg and hydralazine treatment was begun (150 mg daily). There was no diabetes mellitus, vascular insufficiency, or trauma. He smoked 15 cigarettes daily.

He was drowsy, with mild tachycardia (100/min) and low-grade fever (37.5 C). Blood pressure was 220/150 mm Hg (supine) and 190/35 mm Hg (erect). The ulcer (3.5 cm diameter), directly over the right tendo Achillis, was superficial, but the edge was discoloured and the base encrusted with old blood. There was no arterial or venous insufficiency or regional lymphadenopathy. There was severe wasting of the right quadriceps muscle, equinus deformity of the right ankle, and a diffuse purpuric rash over the left shin and forearm.

Haemoglobin concentration was 12.8 g/dl but white cell and platelet counts were normal. Plasma viscosity was raised (1.92 mPa s; 1.92 cp), serum iron concentration 6.9 μmol/l (38.5 μg/100 ml), total iron-binding capacity 47 μmol/l (262.5 μg/100 ml), blood urca concentration 8.1 mmol/l (48.6 mg/100 ml), and creatinine clearance 52 ml/min. Titre for antinuclear factor (ANF) was 1/320 and DNA antibody binding 21%. IgM concentration was 90 g/l, but complement values were normal. Random blood glucose estimations, chest and angiographic, and Wassermann and latent fixation tests showed no abnormalities. The patient was a slow acetylator as assessed by sulphamidine clearance: A biopsy specimen of the ulcer disclosed fibrosing granulation tissue.

All these features suggested that an SLE-like syndrome may have caused this patient's indolent ulcer. Since total hydralazine exposure may have been relevant the drug was replaced by aminosalicylic acid and bendroflumethiazide. With bed rest, raising the leg, and cleaning the ulcer locally his condition rapidly improved. The rash disappeared five days after stopping hydralazine, and by one week the ulcer was healing; this was accelerated by applying split-skin grafts. At discharge plasma viscosity was 1.7 mPa s (1.7 cp). After four months he was in good health and had returned to work. The ulcer had healed, and after physiotherapy his ankle and thigh had returned to normal. Blood pressure was controlled at 140/90 mm Hg. Plasma viscosity, ANF titres, and DNA antibody binding were unchanged.

Comment

Dubois3 reviewed 520 cases of idiopathic SLE and found a 5% incidence of leg ulceration but this complication has not been reported in hydralazine-induced SLE. About 10% of cases of SLE may be caused by drugs, notably hydralazine. Patients may develop a positive ANF titre with hydralazine without having SLE-like symptoms.4 This phenomenon was also shown for prazosin.5 Drug-induced SLE differs from idiopathic SLE in affecting older people, relatively more men, and the lung and kidney less often; DNA antibody binding is under 30%.6 Some 90%, of patients with drug-induced SLE are slow acetylators.7 Although first described in patients taking large daily doses of hydralazine (400 mg), the syndrome may occur with lower doses (150 mg); the cumulative dosage appears to be more important. Symptoms usually disappear over the four months of stopping hydralazine, but ANF titres and DNA antibody binding may take up to six years to return to normal.3 The relation between toxic symptoms and hypertensive control is not clear. Perry4 suggested that toxicity was associated with control of blood pressure and that suddenly stopping treatment led to rebound hypertension. In our case toxicity was associated with full dose hypertensive control. We suggest that acetylator states of all patients taking long-term hydralazine should be determined to identify those at risk from drug-induced SLE. Once hypertension is controlled the daily dose should be reduced to the minimum needed to maintain normal blood pressure.

1 Alarcon-Segovia, D, Clinics in Rheumatic Diseases, 1975, 1, 573.
3 Perry, H M, American Journal of Medicine, 1973, 54, 58.

Gallium-67 scanning in pyrexia of unknown origin

Pyrexia of unknown origin (PUO) is a common problem in clinical medicine, occurring either as a presenting feature or as a postoperative complication. We have assessed the efficacy of 67Ga scanning as a non-invasive investigation of PUO.

Methods and results

We reviewed retrospectively 67 consecutive scans performed on 61 patients with PUO referred to our department in one year. The PUO had been present for several days to several weeks, and routine investigations including blood, sputum, and urine cultures, chest radiography, and intravenous urography, had been performed without success. Imaging was performed using a 185 and 296 keV peak of 67Ga. Patients were imaged from neck to thigh. When indicated, a liver/spleen scan with 99mTc-sulphur colloid was performed after the 67Ga scan at 72 hours, the patient being kept in the same position to permit superimposition of the scans. Gallium-67 scans were regarded as normal when uptake was seen only in sites of physiologic accumulation, and abnormal when uptake was seen at other sites, provided relative uptake increased between 48 and 72 hours. Of the 67Ga scans, 50 were abnormal. Most sites of abnormal uptake were in the abdomen (table), miscellaneous sites consisting mainly of...