CUTANEOUS COMPLICATIONS OF PARENTERAL PENTAZOCINE ABUSE

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A 26-year-old man, a parenteral pentazocine abuser for past 10 years, presented with woody induration on the areas of injections and multiple, punched-out, deep, painless ulcers surrounded by hyperpigmented halo. This appears to be the first report from India on skin manifestations of pentazocine abuse.

Key Words : Drug abuse, Pentazocine, Sclerosis, Ulcer

Introduction

Pentazocine, a synthetic morphine like narcotic agonist, is a potent analgesic. Its abuse has led to the development of severe complications of the vascular, respiratory and central nervous systems. However, cutaneous complications are the commonest features of pentazocine abuse.[1]

The subcutaneous or intramuscular self-administration of parenteral preparations may lead to the development of tense, woody, expansive fibrosis in the areas of injections, irregular punched-out ulcerations, and a rim of hyperpigmentation surrounding the ulcers. We are reporting a patient with cutaneous complications of pentazocine abuse.

Case Report

A 26-year-old male patient, a paramedical worker by profession, presented with multiple ulcers and induration of the skin for the past 1½ years. The patient was a pentazocine abuser for past 10 years. He started using pentazocine injections intravenously for vague arthritic pains. Initially he used to take 1 or 2 ampoules per day (Fortwin, Ranbaxy, 30 mg/ml of pentazocine lactate per ampoule), but gradually their number increased to 6 or 7 per day over a period of about 6 months. As it became difficult for him to inject in veins, he used the drug intramuscularly and then subcutaneously. For past 1½ years, at the injection sites, the evolution of ulcer was initiated by a pruritic or stinging sensation. Within a day or so, papulonodular lesions used to appear at the sites which on rupture discharged yellowish fluid leaving behind the ulcers. The patient never complained of pain at the sites of ulcers and seemed to be indifferent to their presence. On healing, the ulcers left depressed scars.

On cutaneous examination, there were multiple punched out, deep ulcers over dorsa of hands, arms, feet, legs, thighs (Fig. 1), and lateral aspects of buttocks. The ulcers were approximately 1-3 cm in diameter, some were oval or round while others had irregular

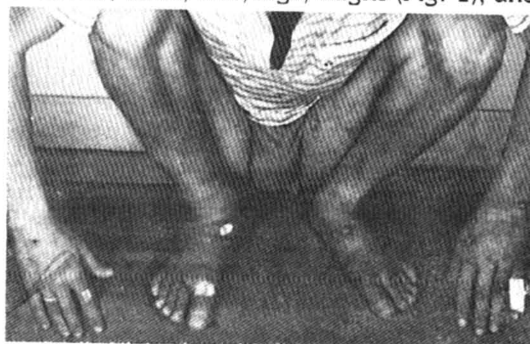

Fig. 1. Punched out ulcers on the injection sites.

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margins. There was a halo of hyperpigmentation of about 0.5-1 cm width around most of the ulcers. Some ulcers had clean floor while others showed yellowish exudate. The skin of the areas where ulcers were present was indurated and oedematous with ill-defined margins and at places depressed scars were present within the indurated areas. Mucous membranes, hair, and nails were normal. Systemic examination was also normal. The following investigations were negative or within normal limits : total and differential leucocyte counts, haemoglobin, erythrocyte sedimentation rate, liver function tests, blood urea and sugar, serum electrolytes and creatinine, RA factor, antinuclear antibodies, ELISA for HIV 1 and 2, electrocardiogram, and X-ray chest. Culture from the floor of ulcers grew E coli and Staph aureus. Skin biopsy showed ulceration with fibrosis of the dermis and panniculus. There was polymorphous infiltrate in the dermis consisting of lymphocytes, neutrophils, and eosinophils mainly centred around the blood vessels. Some of the vessels showed endothelial proliferation and occlusion.

Discussion

Cutaneous complications of pentazocine are expected to occur if the drug is injected parenterally, sufficiently often, and in sufficiently large doses.[1] The distinctive features of pentazocine abuse[1] are (1) the tense, woody, expansive fibrosis that extends well beyond the sites of injection, (2) the irregularly shaped deep ulcers, (3) the halo of hyperpigmentation about the ulcers, and (4) the apparent indifference of the patients and their lack of expression of pain despite this mutilating and indolent process. Other rarely reported cutaneous complications of pentazocine are (1) bilateral deep vein thrombosis,[2] (2) toxic epidermal necrolysis,[3] and (3) generalised erythematous desquamative rash showing altered hair follicles histopathlogically.[4]

The exact pathogenesis of cutaneous complications of pentazocine is not known. It has been suggested that pentazocine may get precipitated in the slightly alkaline pH of extracellular fluid, if not rapidly absorbed. The precipitated crystals may then initiate a chronic inflammatory response.[5] Studies in guinea pigs have suggested that the tissue changes may be a result of vascular ischaemia.[1] The ischaemia is considered to be mediated by the direct vasoconstrictive and vaso-occlusive effects of pentazocine.[1]

Medical and paramedical personnels are at the high risk for pentazocine abuse compared to general population because of their easy access to the drug. In the light of severe complications of the abuse, more judicious use of pentazocine is warranted. The present case appears to be the first from India on dermatological manifestations of pentazocine abuse.

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