Primary Cutaneous Actinomycosis

Sir,

Actinomycosis is a chronic progressive suppurative and granulomatous disease caused by *Actinomyces israelii.* It can affect all organs and tissues of the body, however, primary cutaneous actinomycosis is rare (1). The lesions occur as subcutaneous nodules, usually on the exposed areas, which enlarge slowly and ulcerate to form sinuses. The disease continues for several years, causing marked fibrosis in the affected area.

We report here a patient with primary cutaneous actinomycosis occurring in an unexposed area, who was treated with penicillin.

CASE REPORT

A 17-year-old girl presented with a 12-year history of painful, erythematous nodules, discharging sinuses and scars with diffuse firm swellings on both buttocks extending up to the lower back. The lesions had started on the left buttock in a localized area 4 – 5 months after some intramuscular injections. They were appearing as erythematous nodules, which used to ulcerate in 3 – 4 weeks to discharge seropurulent material and heal after a variable period with puckered scars. Some of the lesions were forming puckered sinus tracts with intermittent seropurulent discharge. She also had a history of intermittent low-grade fever and malaise. There was no history of discharging granules or bony pieces from the lesions. She had no other symptoms.

Cutaneous examination revealed a firm, diffuse, tender, subcutaneous swelling with multiple erythematous, soft, fluctuant, tender, discrete and grouped papules and nodules involving both buttocks, natal cleft and the lower back (Fig. 1). Some of the papules and nodules had ulcerated in the centre with seropurulent discharge, some had healed with puckered scars while others had formed puckered sinus tracts discharging seropurulent material on pressure. There were multiple,1 – 2 cm diameter, discrete, firm, non-tender, mobile, bilateral lymph nodes in the inguinal area. Systemic examination was unremarkable. Skin biopsy from a buttock lesion showed subepithelial inflammatory granulation tissue with chronic and acute inflammatory infiltrate in the perivascular and periappendageal areas. In one area, thin-branched hyphae with beaded appearance suggestive of *Actinomyces israelii* were seen. The Gram's stain stained smear from the discharge also revealed similar thin-branched Gram-positive filaments with a beaded appearance. Repeated attempts to culture the organisms anaerobically and aerobically failed. Other investigations, such as haemogram, liver and renal function tests, X-ray chest, ultrasound abdomen and pelvis, and urine and stool examination were within normal limits. Mantoux test was 5×5 mm and a smear stained with acid fast stain for *Mycobacterium tuberculosis* was negative. A diagnosis of primary cutaneous actinomycosis was made and the patient was treated with crystalline penicillin. Initially she was given 3×10^6 units every 6 h by slow intravenous infusion over 1h, which was continued for 26 days. This resulted in a 40% improvement in the lesions and very few new lesions were noticed during this period. Subsequently, the dose was increased to 6×10^6 units given intravenously every 6 h and trimethoprim 160 mg in combination with sulphamethoxazole 800 mg twice a day orally was added. This resulted in a 75% improvement in the lesions, marked reduction in pain, induration and discharge after 1 month of therapy and no new lesions were seen during this period. Some persistent active nodular lesions were removed intermittently with a biopsy punch while the patient continued the same treatment. After 3 months of this therapy there was more than 95% improvement in the lesions with no induration, tenderness or discharge. Almost all the lesions had healed with atrophic scars. The skin biopsy taken 2 months after stopping the penicillin was unremarkable.

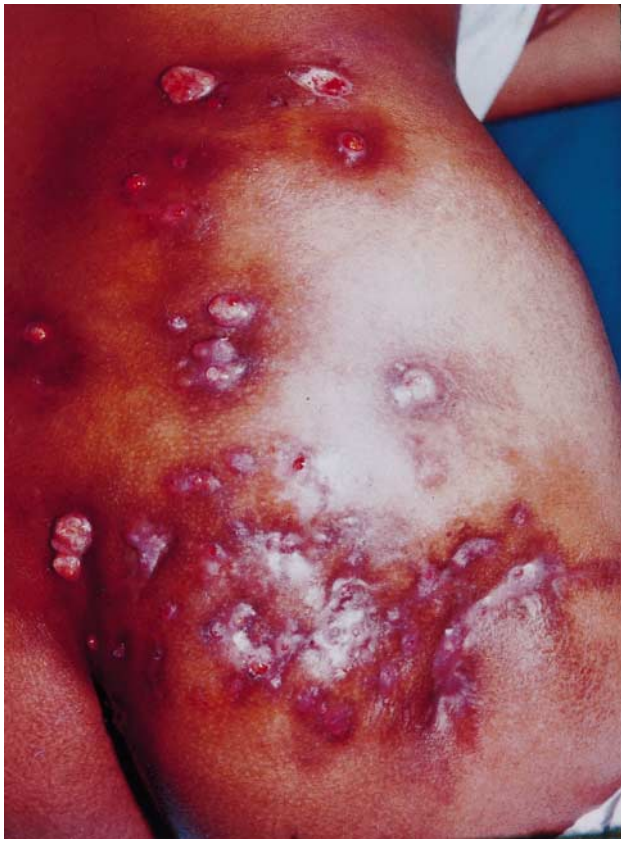

Fig. 1. Papules, nodules, sinuses and puckered scars on the gluteal area.

DISCUSSION

Penicillin in massive doses given for long periods of time is the treatment of choice. However, the therapy is made particularly difficult because of the marked fibrosis in the lesions where effective drug levels are difficult to achieve. Our patient had the lesions in the covered area. Microscopic examination of the material revealed small narrow beaded filaments with occasional branching on different occasions. Histopathological examination of the lesion also revealed organisms suggestive of *Actinomyces israelii*. However, repeated attempts to culture the organisms were unsuccessful. The lesions responded to crystalline penicillin with good results.

REFERENCES

1. Reiner SL, Harrelson JM, Miller SE, Hill GB, Gallis HA. Primary actinomycosis of an extremity: a case report and review. Rev Infect Dis 1987; 9: 581 – 589.

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