Ind J Dermatol Venereol Leprol 1995; 61 : 226-8

CUTANEOUS LOXOSCELISM

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A case of spider bite presenting as cutaneous loxoscelism is reported. The clinical features and management of spider bite are highlighted and the relevant literature has been reviewed.

Key Words : Arachnidism, Cutaneous loxoscelism

Introduction

Spider bites are of significant clinical importance because of an increased awareness of their existence. Indian literature on spider bites is inadequate,[1,2] hence clinically this condition is often not suspected and diagnosed. Dermatologists should consider spider bite as a possible cause of pustular and necrotic lesions of uncertain origin. This article deals with a case diagnosed as spider bite, histopathologically confirmed and subsequently cured.

Case Report

An 18-year old boy presented with an erythematous plaque on the extensor surface of rigth arm and forearm with a central crusted necrotic area on the lower arm. The margin of the lesion was ill-defined and irregular (Fig. 1). The duration of the lesion was 5 days. The onset was abrupt. On getting up in the morning he noticed a few vesicular and pustular lesions on an erythematous and oedematous base.

The lesion increased in size and the vesicles ruptured and gave rise to a central area of necrosis with severe pain on the 4th day. There was no axillary lymphadenopathy.

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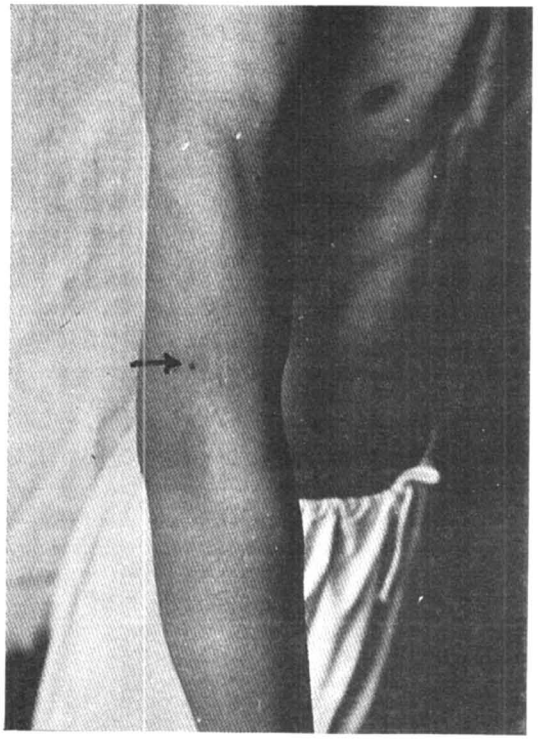

Fig. 1. Extensor surface of right arm and forearm showing an erythematous plaque with a central crusted necrotic area.

His vital parameters were normal. Urine and blood investigations showed no abnormality. Gram stained smear of pus from the lesion showed no organisms. Histopathological examination of the lesion showed extensive perivascular infiltration of neutrophils, lymphocytes and eosinophils within the dermis with a central zone of focal epidermal necrosis. Spongiosis resulting in intraepidermal blisters, extravasation of RBCs and thrombosis of small arterioles were seen (Fig. 2).

Fig. 2. Skin section showing a focus of epidermolysis and spotty dermal inflammatory infiltrate around blood vessels (H & E x 40).

The patient was advised to clean the necrotic lesion well with potassium permanganate solution twice daily. He was given prednisolone 30 mg and erythromycin 1 gram daily in divided doses for 5 days. On the 5th day, the dose of prednisolone was gradually tapered. The lesion completely healed within a month leaving an atrophic scar.

Discussion

The history of acute onset, involvement of exposed parts and appearance of the lesion early in the morning suggested the possibility of an insect bite at night. The diagnosis of loxoscelism was presumed due to positive history of some bite and its typical clinical picture i.e., increasingly painful solitary plaque with a central ischaemic necrosis surrounded by intense erythema.

Spiders belong to class Arachnida and order Araneida of phylum Arthropoda. The clinical syndrome following the bite of the spider is known as Arachnidism. The form of arachnidism caused by species of genus loxoscele of the family loxoscelidae is known as loxoscelism.[3]

Necrotic cutaneous loxoscelism is a peculiar reaction pattern caused by spiders of family loxoscelidae. These spiders are known as loxosceles or "violin spiders" because of the violin shaped marking on the dorsum of the cephalothorax. There are numerous species of loxosceles out of which many have been reported as biting man. The bite of the spider is poisonous to man. The venom of a loxosceles spider is more potent then that of rattlesnake.

The toxin injected in the venom of the spider contains a neurotoxin, a dermonecrotic factor and a spreading factor. The toxin revealed several enzymes including alkaline phosphatase, hyaluronidase, esterase and protease. Phospholipase D is suggested to be toxic factor responsible for haemolysis and dermonecrosis produced by loxoscele spider.[4]

The clinical menifestations of the brown recluse spider bite depend on the age and health of the victim, amount of venom injected and the site of bite e.g., fatty area like thigh show more cutaneous reaction. Severe loxoscelism is more common in children. There are two clinical forms of loxoscelism, cutaneous and the less frequent viscero-cutaneous loxoscelism.

Initially the bite is painless. Severe local pain develops after few minutes or hours. A bluish grey macular halo develops around the puncture site indicating local haemolysis. A cynotic pustule or vesicle may appear at the site of bite due to arterial spasm, which is

often surrounded by erythema, oedema and purpura. Later a central zone of ischaemic pallor develops. Gradually the area becomes dry, crusted, black and necrotic with a surrounding zone of erythema, vesiculation and pustulation. The lesion may spread rapidly and extensively. The eschar is eventually shed leaving erosions and ulcers. The lesion may take upto 6 months to heal with or without scarring.

Differential diagnosis of spider bites inciude bites of other arthropods, erysipelas, cellulitis, ecthyma, vasculitis, pyoderma, urticaria, angioedema, burns and pyoderma gangrenosum.

Treatment of spider bite is highly controversial.[5] It varies with duration of ailment and symptoms. Mild to moderate bites require only sterile dressing, rest to the injured part, analgesic and a close follow-up. Large bites with ulceration are managed with systemic steroids, daily cleaning with peroxides and debridement. Antihistaminics, heparin and dapsone may be effective. Systemic manifestations require immediate hospitalisation. Broad spectrum antibiotic is used with onset of secondary infection. Blood transfusion may be useful. Antivenin is of little use since it must be administered within 30 minutes after the bite, while most bites cause little concern till several hours later.

References

1. Papali C, Gangadharan C, Koshy T, et al. Spider bite-a case of cutaneous loxoscelism. Ind J Dermatol Venereol Leprol 1983; 49: 270-4.
2. Thankappan TP, Sulochna G, et al. Spider bites- cutaneous loxoscelism. Ind J Dermatol Venereol Leprol 1991; 57: 50.
3. Burns D A. Diseases caused by arthropods and other noxious animals. In: Textbook of Dermatology (Champion R H, Burton J L, Ebling FJG, eds). 5th edn. Oxford: Blackwell Scientific Publications, 1992; 1294-6.
4. King LE Jr. Spider bites. Arch Dermatol 1987; 123: 41-3.
5. Wong RC, Hughe SE, Voorhees JJ. Spider bites. Arch Dermatol 1987; 123: 98-104.