

## Hand–Foot Syndrome Caused by Brown Spider Bite

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Sir,

Hand–foot syndrome (HFS) is a rare erythematous skin lesion of the palmoplantar areas of hands and feet. Some authors use the term acral erythema or erythro-dysaesthesia because of the painful erythema on the palms and soles (1). HFS was initially reported in association with acute crisis in sickle cell anaemia and thalassaemia and, more recently, as a common toxicity of high-dose chemotherapy administration (2, 3). Only one report demonstrates the occurrence of HFS in association with multiple fire ant stings (4). Our case is the first report in the medical literature that documents HFS as a result of spider bite.

### CASE REPORT

A 45-year-old otherwise healthy woman was admitted to our department due to appearance of red, mildly tender swellings on both hands and feet. The patient recalled that 3 days before admission she was bitten on the inner thigh by a brown spider. Her past medical history was unremarkable and she was taking no medication. She had no history of drug or food allergy. On physical examination the blood pressure was 120/80 mmHg, pulse rate 85 bpm, temperature 37.6°C and respiratory rate 12. On the back and palmar sides of the hands and feet there were erythematous and oedematous plaques (Fig. 1A and B). On the inner part of the right thigh a painful pale papule was noted surrounded by erythema (Fig. 1C). Laboratory tests including cell blood count, glucose, electrolytes, renal and liver function tests were all within the normal ranges. Serology for viral infections, rheumatic and collagen vascular diseases were all negative. Biopsies from lesions on the hands

showed subacute angiocentric dermatitis. Topical steroids with cold compression, antihistamines and celecoxib alleviated the clinical manifestations in 3 days and the patient was free of erythro-dysaesthesia.

### DISCUSSION

The brown recluse spider of genus *Loxosceles* is also known as the violin or fiddleback spider (*L. reclusa*) because of a violin-shaped mark on its head. These spiders have a wide geographic range, especially in the temperate and tropical regions of the America-South-Central and western US, Europe and Asia including Middle East and Africa. It has six eyes rather than the typical eight. The brown recluse spider's bites usually causes some pain or burning in the first 10 min, accompanied by itching. The wound takes on a bull's-eye appearance, with a central blister surrounded first by an angry red ring and then by a blanched (white) ring. This blister breaks open leaving an open ulcer that scabs over. The ulcer can enlarge and involve underlying skin and muscle tissue. Pain may be severe. A generalized red, itchy rash usually appears in the first 24–48 h. Other symptoms include fever, chills, nausea, vomiting, muscle aches and haemolytic anaemia. Treatment consists of washing the wound. Brown spider bites may go unnoticed, cause a mild local reaction (see above), or a severe local reaction in a few cases. They may also cause loxoscelism, a syndrome associated with haemolysis and death (5). Fortunately, most spiders are not dangerous because their fangs are either too short or too fragile to penetrate human skin. Spiders rarely bite more than once, whereas multiple bites are usually caused by insects such as fleas, bedbugs, ticks,



Fig. 1. (A and B) Erythematous and oedematous plaques on hands and feet. (C) The spider bite. A pale papule surrounded by erythema on the inner aspect of the right thigh.

mites and biting flies. HFS is a rare erythematous skin lesion of the palmo-plantar areas of the hands and feet. Some authors use the term acral erythema or erythro-dysaesthesia because of the painful erythema on the palms and soles (1). HFS as a complication of spider bite has never been described in the literature. Initially HFS was described in association with sickle cell beta thalassaemia (2) and subsequently with sickle cell crisis (6). The association of HFS with chemotherapy agents is well-known. While most frequently reported in association with doxorubicin, cytarabine, docetaxel and fluorouracil (3), other agents include capecitabine (7), vinorelbine (8, 9). Almost all cases have been described in adults, and the most frequent disease associations are with acute myelogenous leukaemia and lymphoma. While the occurrence and incidence is known to be dose dependent (9) the exact pathogenesis remains obscure. It has been hypothesized that HFS is an inflammatory phenomenon mediated by over-expression of cyclo-oxygenase 2 (COX-2) (7). This hypothesis was supported by a retrospective analysis in which the COX-2 inhibitor celecoxib appeared to reduce the incidence of HFS in patients being treated with capecitabine (7). Although HFS is self-limiting, and requires only conservative treatment, the patient frequently requires treatment because of intolerable pain. Reported treatment includes topical or systemic

steroids, elevation of the legs, and application of cold compression to the lesion.

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