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Clinical note

A young female patient with reflex sympathetic dystrophy of the upper limb in whom amputation became inevitable

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Abstract

Reflex sympathetic dystrophy (RSD) is characterized mostly by: (burning) pain, restricted range of motion, oedema and autonomic disturbances. Amputations in case of RSD patients should only be performed in cases of a dysfunctional limb, life threatening conditions such as untreatable infections or in cases of unbearable pain. The authors describe a patient in whom amputation became inevitable because of threatening infections.

Introduction

RSD may develop after a variety of inciting events, but mostly after a trauma or surgery. RSD can however also arise after a minor sprain or contusion which a patient does not recall and did not consult a physician for. Most therapies are assumed to have little or only temporary success (Veldman, 1995), and vary from physical and occupational therapy to many methods to inhibit the sympathetic nervous system (Veldman, 1995). Limb amputation is the extreme choice in management of RSD patients (Erdmann *et al.*, 1992; Eyres *et al.*, 1990; Geertzen *et al.*, 1994; Ritt *et al.*, 1992; Rohrich *et al.*, 1987; Veldman 1995). It is restricted only to those cases with irreversible changes leading to loss of function or intolerable pain.

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Case report

A 26-year-old woman presented with a painful non-dominant left hand and some oedema at the proximal interphalangeal joint of the second digit. She had the complaint for half a year and did not recall an inciting event. She had already consulted a vascular surgeon and a rheumatologist. X-rays, the vascular laboratory research testing and general blood tests showed no abnormal results, no evidence of any bony, joint or nerve injury. All four fingers were lightly flexed and were cold, cyanotic and swollen and she had allodynia and hyperpathia (Fig. 1). Her social life was severely restricted (Geertzen *et al.*, 1994). She was still working as a full-time employed typist. It was concluded that this patient could have a RSD although the history and physical examination were not classical. Intensive physical and occupational treatment was started in combination with medication

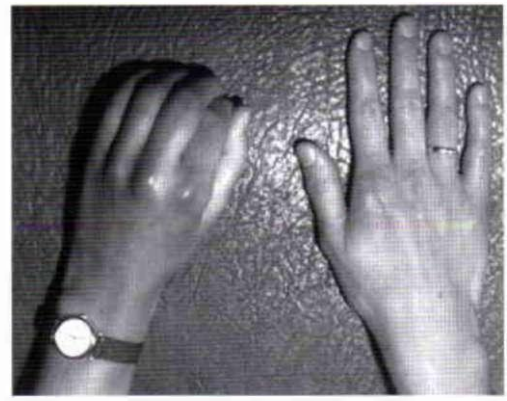

Fig. 1. The patient on presentation.

(analgesics, oxygen free radical scavengers and oral vasodilators). In two weeks the clinical symptoms deteriorated and the patient had so much pain that treatment was intensified. A psychologist was consulted and could not find any explanation or suggestion for treatment.

The clinical course was undulating and half a year later she was referred to a pain clinic. For more than two years she was treated with physical treatment, stellate blocks, morphine, oral vasodilators and a surgical thoracic sympathectomy. Success was temporary and she was re-admitted with severe pain, allodynia, hyperpathia, hyperhidrosis and changed nail-growth. The hand was clenched, swollen and could not be opened. The hand and wrist were dysfunctional (Fig. 2), and she developed cellulitis and several ulcera leading to lymphangitis and enlarged lymphatic nodes. Consultation with a rheumatologist, vascular surgeon, trauma surgeon and a specialist in rehabilitation medicine led to the decision about amputation, which was performed 10cm proximal to the wrist. Post-operatively the wound healed "per primam". The pathologist reported a dystrophic hand with microscopical minimal aspecific alterations such as atrophic muscles and perivascular infiltrations. At first she had stump pain, but one year later she only has phantom sensations when not wearing her myoelectric prosthesis. She gets an 80% disability payment.

Discussion

RSD is a very complex disease and differentiation of a normal recovery after a trauma may be very difficult. The differential diagnosis is often not easy; one should consider compartment syndrome, phlebothrombosis, infection, inflammatory conditions, rheumatologic disorders, neurologic diseases, arterial insufficiency or psychologic disorders such as automutilation or a dis(non)use of the limb.

In the case reported here all classical clinical signs of RSD became present. The patient had asked more than once for an amputation. At that time she was strongly advised against amputation. After three and a half years, with several episodes of clinical deterioration a syndrome almost similar to that of the clenched fist syndrome developed (Swift *et al.*, 1995).

Although the authors realized the possibility of the recurrence of RSD in the stump, amputation had to be performed because of the threatening infections. RSD is reported to recur after amputation in most cases (Dielissen *et al.*, 1995), although one author did not support this opinion (Stam *et al.*, 1994). Dielissen also reported that most patients were, because of this recurrence of RSD, unable to wear a prosthesis. Phantom pain was reported in 71% of the cases and phantom sensations in 85% of the cases. It was conculded that in RSD patients amputation should not be performed because of pain. Szeinberg-Arazi (1993) reported that patients with a post-RSD amputation require psychological support. In this case the patient declined support and for the time being, she is doing surprisingly well.

The main reason for amputation in this case report was increasing, ascending and poorly treatable infections and the disfunctional hand; in the patients' view it was the unbearable pain.

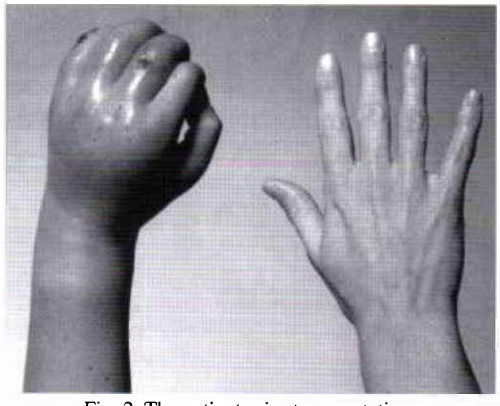

Fig. 2. The patient prior to amputation.

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