Severe pompholyx following endoscopic thoracic sympathectomy for palmar hyperhidrosis

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Abstract

Endoscopic thoracic sympathectomy has become the preferred method for treating intractable palmar hyperhidrosis because of its simplicity, though various complications have been reported. We report two patients suffered from severe palmar pompholyx-like eczema following this procedure. One was successfully treated with topical and oral steroids, however, the other had a wavelike continuation of eczema disturbing her daily activities. We recommend that every sympathectomy for hyperhidrosis should be performed after receiving informed consent to the possibility of even minor complications such as acute pompholyx that could negatively affect postoperative quality of life.

Keywords: Endoscopy; Sympathectomy; Hyperhidrosis; Complications of surgery

1. Introduction

Endoscopic thoracic sympathectomy (ETS), an operative treatment for palmar hyperhidrosis, has become a common procedure. Although ETS is very effective for reducing palmar sweating, it is known that such complications as pneumothorax, hemothorax, Horner’s syndrome, and severe compensatory sweating should be carefully avoided [1–3]. Pompholyx is a form of eczema on the palms and soles, in which edema fluid accumulates to form visible vesicles or bullae [4]. It is a common skin feature in patients with palmar hyperhidrosis, however, there are no reports of a patient that developed severe pompholyx following ETS.

2. Case description

2.1. Case 1

A 34-year-old man was admitted under a diagnosis of palmar hyperhidrosis. A physical examination and preoperative laboratory test results were within normal ranges. Under general anesthesia in a semi-sitting position, following an 8-mm skin incision along the right axillary region, a needle for insufflation was inserted through the Th2/3 intercostal space and 1.5 l of carbon dioxide was used to establish a pneumothorax. After a resectoscope was inserted through the same incision into the thoracic cage, we cut the sympathetic trunk on the surface of the Th2, Th3, and Th4 ribs using a diathermy with coagulation mode. We left two Kuntz fibers found on the Th3 rib. Next, on the left side, we cut the trunk on the surface of the Th2, Th3, and Th4 ribs in the same manner, and left two Kuntz fibers found on the Th3 and Th4 ribs. A prophylactic antibiotics (1 g of cefazolin sodium) was infused during the operation. The patient recovered from general anesthesia uneventfully.

On postoperative day (POD) 1, oral antibiotics (cefaclor, 750 mg/day) and analgesics (loxoprofen sodium, 180 mg/day) were administered routinely. Sweating in the palms and axillary regions were significantly reduced, and the effect of the operation was considered satisfactory. On POD 3, a form of eczema of the palms along with severe itching was observed and diagnosed as pompholyx-like eczema (Fig. 1), which was different clinically from drug allergy. A steroid ointment (0.1% mometasone furoate) and oral steroid (betamethasone, 1.5 mg/day) were prescribed...
and the eczema decreased by POD 4. The patient was discharged on POD 5 and the oral steroid was tapered over a week period. On POD 12, we confirmed that the eczema had disappeared in our out-patient clinic.

2.2. Case 2

A 29-year-old woman with a diagnosis of palmar hyperhidrosis exhibited no abnormal medical findings preoperatively. Under the same procedures as used in Case 1, we cut the bilateral sympathetic trunks on the surface of the Th2 and Th3 ribs. We left three Kuntz fibers found on the right Th3 rib, as well as two Kuntz fibers found on the left Th2 and Th3 ribs.

Following the procedure, her palms were dry and we considered the results to be satisfactory. On POD 3, small vesicles with itching and pain were found on the bilateral palms, which were diagnosed as pompholyx-like eczema. We started treatment with a steroid ointment and oral steroid, as in Case 1. The condition seemed to improve and the patient was discharged from the hospital on POD 5. On POD 9, she returned to us complaining of an attack of itching and pain on her palms. We continued the steroid ointment and have been following the patient for more than 2 years since the operation. She still has a wavelike continuation of pompholyx-like eczema that was initiated by ETS, which disturbs her daily activities.

3. Discussion

The cause of pompholyx is obscure, and its alternative name, dyshidrotic eczema, may refer to a supposed connection with sweat gland activity regulated by the sympathetic nervous system. One case report of unilateral ETS that decreased ipsilateral palmar pompholyx implied that an alteration of sympathetic activity affected the disease [5]. It was also reported that a reduction in sympathetic tone associated with positive airway pressure induced remission of pompholyx in a patient with sleep apnea syndrome [6]. These suggest that alterations of sympathetic tone could result in the healing of pompholyx. It was also shown that sudomotor response to sympathoexcitatory stimuli following ETS could be modulated not only by the anatomical level of the interrupted thoracic sympathetic trunk [7], but also by the grade of interruption achieved with the procedure [8]. In the present patients, we speculated that a reduction of sympathetic activity in the sweat glands of the palms following ETS induced an irregular alteration in thoracic sympathetic domination, which resulted in the formation of pompholyx-like eczema. We do not think surgical technique employed for these patients directly affected the complication. It was reported that effectiveness of ETS should not be altered without removing nerve segment of sympathetic trunk or cutting Kuntz fibers [9,10].

For the treatment of pompholyx, topical steroid treatment is effective, while a course of oral steroids is indicated for severe cases [4]. Generally, the attack subsides spontaneously and resolution with desquamation occurs within 2–3 weeks in most patients, as in Case 1. Nevertheless, as in Case 2, recurrent attacks can cause a wavelike continuation of symptoms that disturb daily activities. ETS for palmar hyperhidrosis is an operation to improve quality of life and is not a treatment for a life threatening diseases. Therefore, full disclosure about the procedure and its potential side effects must be given to patients, who otherwise may regret undergoing ETS.
even though cessation of palmar sweating has been obtained.

We recommend that every ETS for hyperhidrosis should be performed following careful evaluation of patient condition and after receiving informed consent to the possibility of even minor complications such as acute pompholyx that could negatively affect postoperative quality of life.

References


