[症例報告]The Surgical Treatment of Idiopathic Hyperhidrosis : A Report of Two Cases

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The Surgical Treatment of Idiopathic Hyperhidrosis : A Report of Two Cases

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Abstract

A 22-year-old male student and a 39-year-old man presented with bilateral paroxysmal idiopathic hyperhidrosis on the both hands and the soles of the feet. Profuse sweating influenced by emotional and thermal stimuli was associated with a local coldness and greatly interfered with their daily duties. Chemical and physical examinations revealed no apparent abnormalities. Per-axillary thoracal sympathectomy was done and both patients reported an improvement in the quality of their life and symptoms were greatly alleviated 8 and 3 months after the surgery, respectively.

Introduction

Hyperhidrosis is an uncommon and distressing condition which may be primarily related with emotional, thermal, or gustatory stimuli(1-4), and secondarily as a symptom of some systemic or neurologic disease, such as diabetes mellitus (5), hyperthyroidism (6), pheochromocytoma (6), syringomyelia (5), tabes dorsalis (5), and agenesis of corpus callosum (7).

We report here our treatment of two men with paroxysmal idiopathic hyperhidrosis, both of whom had an excellent response to peraxillary thoracal sympathectomy.

Case Reports

Case 1. A 22-year-old male student complained of attacks of profuse sweating on the both hands and feet since childhood. The attack occurred several times daily and was associated with a local coldness, a feeling of the sweat bursting out of the skin spore and a slight paraesthesia. Emotional and/or thermal stimuli seemed to precede the attacks. The most consistent inconvenience was difficulty in writing, particularly at the time of a written examination. He underwent treatments with drugs and topical application of ointments or lotions, but with no relief. On admission to our hospital, sweat was actually dripping from the fingertips when the attack occurred (Fig. 1). There were no abnormalities

in ECG, roentogenograms, chemical examinations and physical findings.

Pulse rate was 72/min and blood pressure 110/60 mmHg.

Medical history of his family was non-contributory and he did not have the habit of smoking and drinking.

Case 2. A 39-year-old man complained of profuse sweating on both hands and the soles of his feet since the age of 10 years. The profuse sweating on the both hands caused social embarrassment, particularly difficulty in writing, driving and doing daily work. His hobby was photography, but the camera box

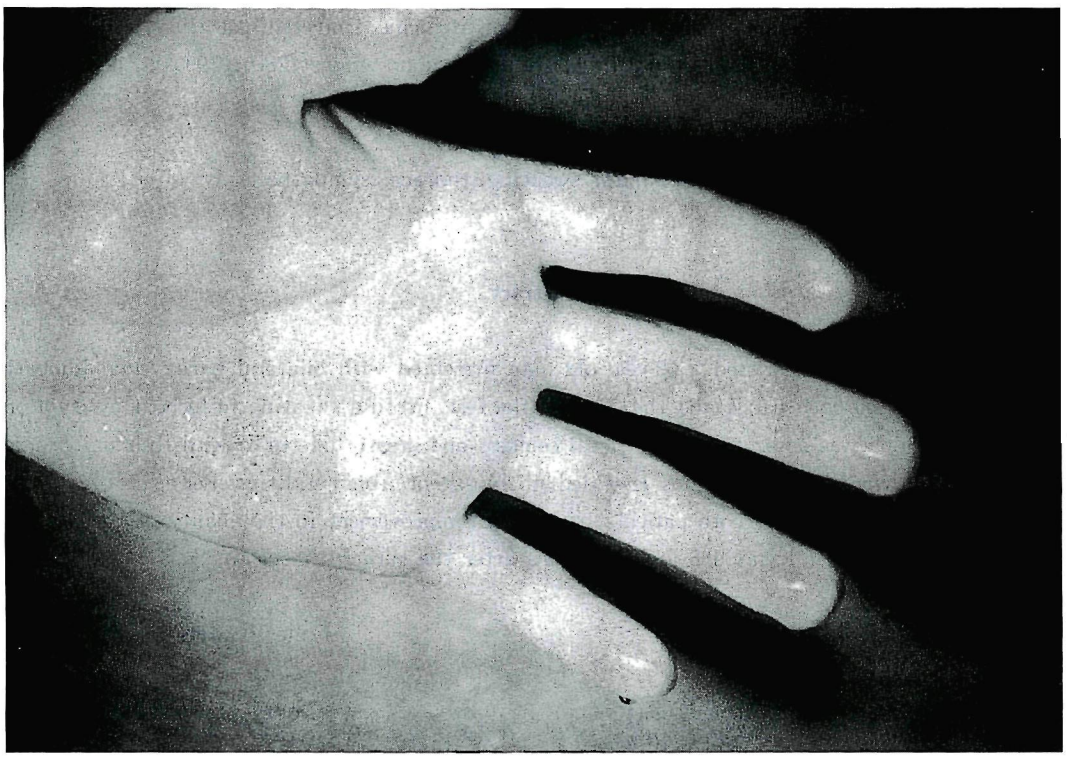

Fig. 1 Preoperative profuse sweating of the hand of a patient (Case No. 1) during office interview, at normal room temperature. Note that sweat is actually dripping from the fingertips.

deteriorated because of the profuse sweating on his hands. An elder sister and two of his children also had hyperhidrosis. He has smoked 30 cigarettes daily for about 15 years, but intake of drugs and alcohol was little.

He had experienced a head injury when falling from a tree at the age of 16, but as the hyperhidrosis began at age 10 years, presumably there was no relation. On admission, sweat was dripping from both fingertips. The soles of his feet were also very wet, and the hands and feet were cold when palpated during an attack. The laboratory and physical examinations revealed no abnormalities. Pulse rate was 72/min and blood pressure 100 mmHg.

Surgical Treatment

Both patients underwent thoracal sympathec-tomy. A selective blockade of the stellate plexus was made by infiltrating 5 ml of 1%

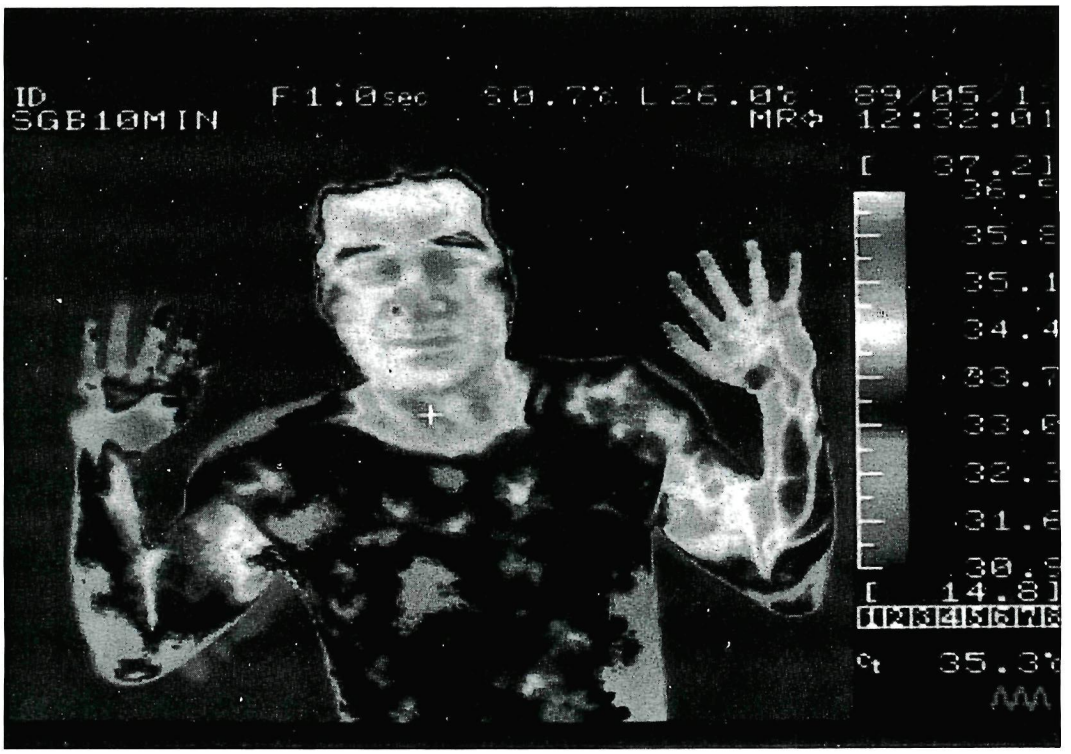

Fig.2 A thermogram (Case No.2) taken immediately after selective blockade of the left stellate plexus. The sweating considerably diminished and skin temperature of the left hand was elevated.

xylocaine before surgery. The sweating considerably diminished with a definite elevation of the skin temperature of the hand immediately after the blockade (Fig.2).

A 10 cm longitudinal incision was made at the axillary line downward from the level of the 2nd intercostal space. The thoracic cavity was entered through the 3rd intercostal space avoiding damage of the thoracodorsal nerve. The 2nd and 3rd thoracal sympathetic ganglia were resected. One patient (Case No.1) was treated with bilateral thoracal sympathectomy at the interval of 2 weeks. Another patient (Case No.2). underwent sympathectomy on the right side because he had to leave the hospital for a short time before undergoing surgery on the left side. The postoperative courses of the patients were uneventful and Horner's syndrome, pneumothorax, hemothorax, recurrent laryngeal nerve paralysis and neuralgic pain never occurred. In case No.1, bilateral sympathectomy led to a complete drying of both hands. In the 2nd case, sweating on the right hand ceased with a relalative diminution of sweating on the left hand.

The patients are now doing well with considerable improvement in their quality of life, 8 and 3 months after the surgery, respectively.

Discussion

Documentation on idiopathic hyperhidrosis in Europe and America is considerable (1-11), but reports are few in Japan. Although idiopathic hyperhidrosis is considered a state

of hyperreactivity of sudomotor systems (8, 10), the actual etiology is poorly understood since anatomical and pathological examinations of the sympathetic ganglia and sweat glands revealed no abnormalities (2). Emotional or thermal stimuli, physical exercise, gustatory stimuli, e. g. hot, spicy food or alcohol, and fine manual tasks can all provoke an attack (1-4, 6, 8-10). Emotional stimuli seems to cause a much greater hidrosis than other stimuli. Profuse sweating occurs on the palms, soles, neck and face and/or axillae. Palmar sweating greatly interfers with daily work and there are difficulties in writing, drawing, shaking hands and tight gripping of the steering wheel. Leather shoes can soon begin to rot. Patients were usually young and healthy, and often there is a familial tendency toward hyperhidrosis (1, 8, 13).

Various non-surgical treatments, i. e. topical application of ointments or lotions of ammonium sulfate (2), glutaraldehyde (2, 3) formaldehyde (2), oral administration of chlonidine chloride (14, 15), anticholinergic drugs (2) or sedatives (7, 16) and iontophoresis (2, 4, 13) have been prescribed. However, it is a general agreement that sympathectomy is the only treatment with a persistent effect. Various non-surgical managements were often ineffective and long-term use leads to side effects. Approaches to thoracal sympathectomy include supraclavicular (1, 11, 17, 18) or dorsal (19), however pneumothorax, hemothorax, pleural effusion, Horner's syndrome, brachial plexus contusion and/or recurrent laryngeal nerve paralysis occurs in about 8 per cent of the cases (1). With the supraclavicular approach, the operative field is limited and contusion of the stellate plexus, recurrent laryngeal nerve and brachial nerve plexus are apt to occur during the surgery. With the dorsal approach, it is neccessary to resect the posterior part of the 2nd and 3rd ribs and pleural injury can occur. On the contrary, the per-axillary approach (20) is an easy and safe approach and the anatomy of the sympathetic ganglia adjacent to the thoracic vertebrae can be widely inspected and the 2nd and 3rd ganglia accurately resected. There is little postoperative morbidity and continuous drainage of the thoracic cavity can be discontinued 2 days after the surgery. A drawback of thoracal sympathectomy is a compensatory hidrosis on the non-denervated area of the forechest and back, but such is usually temporary and diminishes in the following 6-12 months. As the quality of life of such patients is improved, thoracal sympathectomy for treating patients with hyperhidrosis deserves further attention.

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