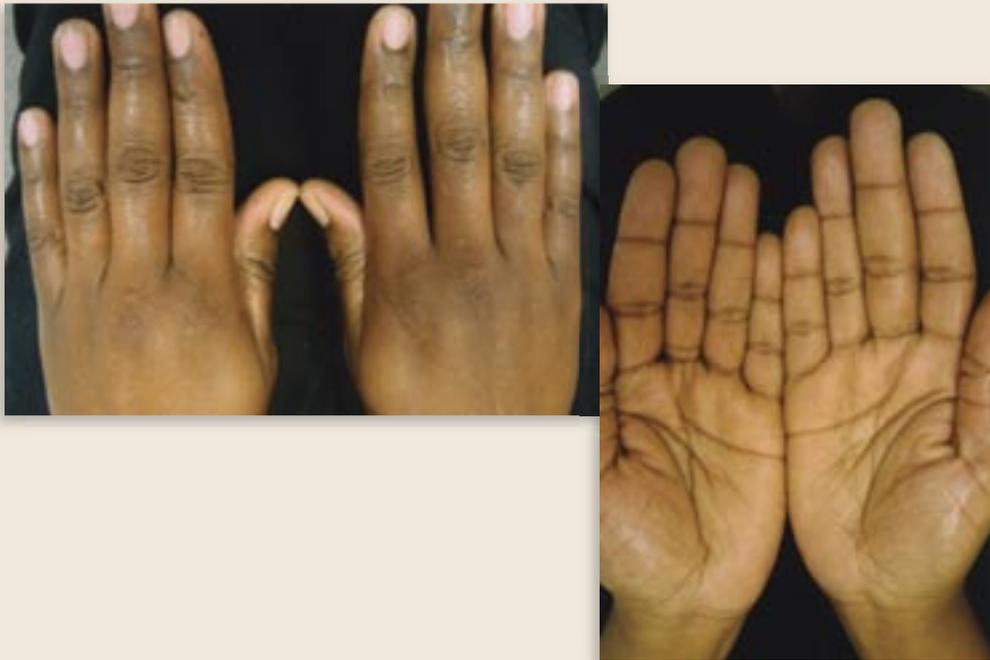


# Dermacase

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## CAN YOU IDENTIFY THIS CONDITION?

A 30-year-old black woman presents with profuse sweating on her palms, soles, and axillae. She developed this condition about 15 years ago and now is concerned about having difficulty grasping objects and being embarrassed when shaking hands. She is otherwise healthy and is taking no medication.

### The most likely diagnosis is:

1. Hyperhidrosis secondary to thyrotoxicosis
2. Dyshidrotic eczema
3. Essential or primary hyperhidrosis
4. Riley-Day syndrome (familial dysautonomia)
5. Hidradenitis suppurativa

*Answer on page 505*

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### 3. Essential or primary hyperhidrosis

**H**yperhidrosis is excessive sweating beyond what is necessary for normal thermoregulation. It affects up to 1% of the population<sup>1</sup> and has been associated with social embarrassment, withdrawal, depression, and disruption of work.<sup>2</sup>

Several medical conditions are associated with hyperhidrosis. Primary or essential hyperhidrosis is idiopathic. It often begins in childhood or adolescence and persists throughout adult life.<sup>3</sup>

Secondary hyperhidrosis is a consequence of some other medical condition, such as chronic infections (eg, tuberculosis), endocrinopathies (eg, thyrotoxicosis or hypoglycemia), neoplasms (eg, carcinoid tumours, Hodgkin disease, or pheochromocytoma), medications (eg, antiemetics or antidepressants), menopause, and neurologic disorders (eg, syringomyelia, focal brain lesions, or autonomic dysregulation).<sup>3</sup>

Hyperhidrosis occurs in three different forms: localized, generalized (>100 cm<sup>2</sup>), and emotionally induced. Emotionally induced hyperhidrosis affects the palms, the soles, and occasionally the axillae and can be associated with tachycardia and vasomotor instability.

#### Diagnosis

Hyperhidrosis can often be diagnosed by history and physical examination.<sup>1</sup> Diagnosis can be confirmed by an iodine-starch reaction that involves spraying iodinated starch powder onto the affected area, which will turn black in the presence of sweat.<sup>4</sup> This test helps to identify areas with excessive sweat production and indicate certain treatments. Appropriate investigations should be pursued if secondary hyperhidrosis is suspected.<sup>1</sup>

#### Treatment

Several treatments can be used to manage hyperhidrosis. Topical agents can be effective for localized hyperhidrosis. Over-the-counter antiperspirants containing aluminum chloride could suffice for most uncomplicated cases of axillary hyperhidrosis.<sup>5</sup> More severe cases of localized axillary or

palmoplantar hyperhidrosis can be appropriately managed with aluminum chloride hexahydrate (20%) dissolved in anhydrous ethyl alcohol (Drysol). The preparation should be applied to dry skin every night and washed off in the morning.<sup>5</sup> Application can be gradually spaced out to once a week or as required once the medication is effective.<sup>1</sup>

Several systemic agents have been found effective for various forms of hyperhidrosis. Systemic anticholinergic agents (glycopyrrolate, oxybutynin) can be used for patients with localized and generalized hyperhidrosis. Dry mouth, constipation, urinary hesitancy, nausea, abdominal cramps, weakness, headache, dizziness, tachycardia, and blurred vision are well recognized side effects of anticholinergic therapy, but these side effects are usually well tolerated, especially by young, healthy patients. Clonidine has been shown to be effective for hyperhidrosis secondary to menopause and tricyclic antidepressants. Fludrocortisone acetate, 0.3 mg daily, might control sweating in quadruplegics with orthostatic hypotension.<sup>5</sup> Consultation with dermatologists and other specialists is highly encouraged before initiating systemic therapy.

Psychotherapy is an unconventional therapy for managing emotionally induced hyperhidrosis. Biofeedback for relaxation, desensitization training, and hypnosis might be useful as adjunct therapies.<sup>6</sup> Iontophoresis, passing of an anodal current through intact skin, is an effective treatment for patients with palmoplantar hyperhidrosis. Devices can be ordered directly from companies that produce them; they are often found in dermatologists' offices. Tap water iontophoresis for 30 minutes daily is effective for most patients within a week.

Botulinus toxin is one of the newer therapies for managing localized hyperhidrosis of the palms, soles, and axillae, and gustatory sweating. The toxin must be injected many times into the affected area within approximately 1 week of onset of anhidrosis; the therapeutic effect lasts between 4 and 12 months depending on patients' response and dose administered. Major drawbacks to this method are the high cost and mode of administration. Some patients

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experience transient weakness of the small muscles of the hand that lasts 2 to 3 weeks.<sup>7</sup> Botulinus toxin therapy is becoming increasingly popular among patients with localized hyperhidrosis despite its high cost and side effects.

Surgical options in management of hyperhidrosis include excision of axillary tissue, axillary liposuction, and thoracic sympathectomy.<sup>3</sup> Excision of axillary tissue aims to eliminate most of the axillary sweat glands. Complications of this method include wound infection, slow healing, wound hematoma, wound dehiscence, hidradenitis, and necrosis at the edge of the skin.<sup>3</sup>

Axillary liposuction involves removal or destruction of the apocrine glands along with disruption of nerve supply to the sweat glands.<sup>3</sup> Axillary liposuction will likely be the surgical treatment of choice for axillary hyperhidrosis refractory to more conservative measures.

One of the final options in managing hyperhidrosis is thoracic sympathectomy, which is done under general anesthesia as day surgery. It involves disruption of the second, third, and fourth thoracic ganglia and is successful in 87% to 98% of patients with palmar-axillary hyperhidrosis. Patients with respiratory impairment and pleural adhesions are not suitable for this surgery. Complications of thoracic sympathectomy include compensatory sweating, Horner syndrome, pneumothorax, hemothorax, thoracic duct injury, and phrenic nerve injury.

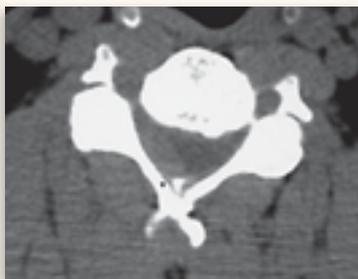
Family physicians can have an important role in recognition and treatment of hyperhidrosis, thus relieving patients of the psychosocial burden of this condition. ❁

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## Answer to Emergency Case

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**Figure 1.** Computed tomography scan at the level of C4 vertebra showing an epidural hematoma pushing the spinal cord to the left and forward

## 2. Spinal epidural hematoma

This patient has a spontaneous (ie, nontraumatic) spinal epidural hematoma (SEH) from approximately the second to fifth cervical vertebrae (Figure 1). He immediately underwent laminectomy and decompression, made a full recovery, and was discharged 9 days later.

Traumatic SEH is well recognized and, when it causes spinal cord compression, is a true neurosurgical emergency. Although most commonly associated with major blunt trauma, it has also been described in association with spinal surgery,<sup>1</sup> epidural anesthesia,<sup>2</sup> and spinal manipulation.<sup>3</sup>

Spontaneous or nontraumatic SEH has also been reported<sup>4</sup> in association with fibrinolytic and anticoagulant agents<sup>5</sup> and with congenital and acquired coagulopathies.<sup>6,7</sup> The incidence of nontraumatic SEH is unknown. Although uncommon, this diagnosis needs to be remembered when any patient has spontaneous onset of back pain that is otherwise unexplained. Patients' use of anticoagulants should increase suspicion. Most importantly, any patient with unexplained back pain and neurologic findings urgently needs imaging studies and specialty consultation. ❁

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