



Questions and Answers on Hyperhidrosis, Its Treatment and Consequences

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What is hyperhidrosis?

Hyperhidrosis is a pathologic condition of excessive sweating in amounts greater than physiologically needed for the regulation of body temperature (thermoregulation). Hyperhidrosis is a distressing condition for patients: it causes physical discomfort and social awkwardness, negatively impacts on daily activities, and results in depression and reduced levels of confidence.

How does hyperhidrosis manifest itself?

Hyperhidrosis can be generalized or focal.

The generalized form of hyperhidrosis affects the entire body and may happen without a known cause (idiopathic) or secondary to a metabolic or systemic disease, such as endocrine diseases (menopause, hyperthyroidism, diabetes), neurological disorders (Parkinson disease, peripheral neuropathies, brain lesions), congestive heart failure, neoplasias, or use of some medications (such as propranolol, tricyclic antidepressants, cholinesterase inhibitors, and opioids).

Conversely, focal hyperhidrosis, which occurs in otherwise healthy patients, involves specific sites of the body, most commonly the axilla, palms, soles, and sometimes the craniofacial area, often before the age of 25 years.

The most common cause of focal hyperhidrosis is primary idiopathic hyperhidrosis. It is important to note that primary hyperhidrosis ceases when sleeping, in contrast to night sweats, which can indicate an underlying disorder.

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Is hyperhidrosis a congenital disease? Does it affect parents and children?

There is evidence for a genetic component to hyperhidrosis but it does not mean that if parents have it, children will have it too. Some genetic analysis suggests that an allele for hyperhidrosis may be present in 5% of the population, and that 25% of people with one or two copies of the allele will have hyperhidrosis, and roughly two-thirds of patients report a positive family history.

What are the treatments for hyperhidrosis?

Hyperhidrosis has a medical or non-surgical and a surgical treatment.

Patients who are overweight, have full-body hyperhidrosis, or who have secondary causes such as hyperthyroidism, hypertension, diabetes mellitus, infections, brain lesions, and other systemic medical conditions should be treated medically and should not be treated with surgery.

The non-surgical treatment includes:

- (a) Antiperspirants, which are thought to work by mechanically obstructing the eccrine sweat gland ducts or by causing atrophy of the secretory cells.
- (b) Systemic medical regimens may also be employed in the treatment of hyperhidrosis. Anticholinergic agents (glycopyrrolate, propantheline, oxybutynin) are sometimes used; however, the dosage required to reduce sweating also causes development of adverse effects such as dry mouth, blurred vision, or urinary retention. Another significant drawback of this kind of treatment is that the possible benefits disappears if the patient stops taking medication.
- (c) β -Blockers or benzodiazepines may be useful for reducing the emotional stimulus that leads to the excessive sweating in patients with hyperhidrosis that is triggered by specific emotional events.
- (d) Iontophoresis is the introduction of ionized substances through intact skin by the application of direct current and appears to alleviate symptoms in palmar or plantar hyperhidrosis. The drawback is that it is often irritating to the skin and may cause scaling and fissuring.
- (e) Botulinum toxin type A (Botox[®]) has been shown to be effective for axillary and palmar hyperhidrosis by temporarily reducing sweat production. It usually lasts for 3–4 months; however, it can last as long as 7 months. Drawbacks include local pain (20–40 injections are needed), an abbreviated response, transient weakness of the small hand muscles, and the cost of the procedures.

There are two types of surgical treatment: local surgical treatment and sympathectomy.

The local surgical treatment for axillary hyperhidrosis is the removal of the axillary sweat glands by means of curettage or liposuction. Complications include wound infection, scar formation, skin necrosis, and skin discolorations.

Sympathectomy can be performed in several forms: the sympathetic chain can be transected, resected, ablated with a cautery, or clips can be used. No clear differences have been demonstrated among the different techniques. The important concept about nerve disruption is that there is enough separation between the ends of the chain so that regrowth is impossible.

How can we explain the disease?

Although the pathophysiology remains unknown, and it can also occur spontaneously and intermittently, the cause of hyperhidrosis appears to be an abnormal central response to emotional stress.

Which are the more frequent symptoms?

The first step in the evaluation of hyperhidrosis is to differentiate between generalized and primary (or focal) hyperhidrosis. Patients with focal hyperhidrosis have sweating involving the craniofacial region, palms, soles, or axillae, and the sweating can present in only one of these regions or in more than one.

The most common causes of generalized sweating are excessive heat and obesity. Generalized sweating also suggests a secondary etiology related to other systemic diseases.

Is it possible to measure the intensity of hyperhidrosis?

Yes, it is possible to measure the amount of sweat produced in some body areas such as, for instance, palmar or axillary regions. But it is a complicated procedure and it has no importance in clinical decisions.

The most relevant aspect when making a decision regarding whether a case should be treated is not the amount of sweat produced by the patient but how much discomfort or social awkwardness this sweat causes to the patient. For instance, palmar hyperhidrosis can be much more disturbing for someone that has a job that involves close contact with people than for a swimming teacher who spends part of the day in a swimming pool. For practical clinical purposes, any degree of sweating that interferes with the activities of daily living should be viewed as abnormal.

Will hyperhidrosis disappear if I take anxiolytic medication?

As explained before, although hyperhidrosis appears to be related to an abnormal central response to stress, it does not mean that hyperhidrosis will disappear when a patient takes anxiolytic medication. But, on the other hand, when people that present hyperhidrosis become anxious or are under emotional tension, the symptoms (sweat production) usually increase.

At which age do symptoms appear?

The palmar symptoms start in early childhood, axillary symptoms in adolescence, and craniofacial symptoms in adulthood. The symptoms often worsen during puberty.

Will these symptoms disappear over time?

There is no an answer to this question, but the low prevalence of hyperhidrosis among elderly people is thought to possibly represent regression of the disease over time.

Can hyperhidrosis be related to other diseases?

The generalized form of hyperhidrosis, which affects the entire body, can be idiopathic or secondary to a metabolic or systemic disease, such as endocrine diseases (menopause, hyperthyroidism, diabetes), neurological disorders (Parkinson disease, peripheral neuropathies, brain lesions), congestive heart failure, neoplasias, or use of some medications (e.g., propranolol, tricyclic antidepressants, cholinesterase inhibitors, and opioids).

Can hyperhidrosis be related to some kinds of food?

It's possible to sweat when you eat hot or spicy foods. If a specific food raises your body temperature, then your body will try to cool itself with sweating. But some people sweat when they eat any kind of food or sweat when they just think about food. Often called gustatory hyperhidrosis (and sometimes called Frey's syndrome), this food-related sweating can be embarrassing and uncomfortable.

Many cases of gustatory sweating appear after surgery or trauma to a parotid gland. The parotid glands are the body's largest salivary glands; if a parotid gland is damaged or if surgery to a parotid is required (damage can occur due to inflammation, infection, and mumps), then related nerves may become damaged or may regenerate in an inappropriate way. The result is that when a person is supposed to salivate, he or she may also sweat and experience facial flushing. This combination of sweating and flushing related to parotid trauma is called Frey's syndrome, and usually affects just one side of the face.

Gustatory sweating can also occur for no known reason (idiopathic) or related to another medical condition (due to conditions such as diabetes, cluster headaches, Parkinson disease, and facial herpes zoster). In these cases, the sweating is often experienced on both sides of the face.

Can the presence of axillary odor be related to hyperhidrosis?

The medical term for the presence of offensive body odor is bromhidrosis and it can cause significant social embarrassment. Bromhidrosis is due to biotransformation of odorless natural secretions into odorous molecules and is linked with excessive sweating.

The sudiferous (sweat) glands are divided into eccrine glands, found all over the body, and apocrine glands, found in the axilla, breast, and groin region. While bacterial metabolism of apocrine sweat usually causes the malodor, eccrine sweating can also become offensive after ingestion of certain foods, such as garlic and alcohol.

Which is the best age to be submitted to sympathectomy?

The first point to be kept in mind is that no patient with hyperhidrosis "needs" to be submitted to sympathectomy: people with hyperhidrosis will not live any less or will die with cancer because of it. Proceeding to surgery is not a medical decision, it is a patient decision.

When a patient feels disabled by hyperhidrosis, and since sympathectomy is the most effective way to get rid of it, the surgery can be done as soon as possible. In children it usually occurs when they begin their school life, around 7 years old. The surgical risks of sympathectomy are very low and there is nothing contraindicating surgery.

Since there is no "ideal" age to be submitted to sympathectomy, the most appropriate way forward is to discuss the timing of the surgery with your doctor.

How many days will I spend in the hospital following sympathectomy?

In most cases of video-assisted thoracic sympathectomy, the patient is discharged on the next day or even on the same day.

How many incisions are necessary in a sympathectomy?

Video-assisted thoracic sympathectomy is usually performed through only one or two incisions, and surgeons usually try to place the incision in the axillary region so the resulting scar will be hidden.

For how long do I have to avoid exercise after sympathectomy?

Your surgeon can give you a precise answer, but since the trauma resulting from video-assisted sympathectomy is minimal, exercise can be resumed shortly after the surgery.

Is there a reversible technique for sympathectomy?

For a long time it was believed that sympathectomy performed with clips could be reversible. Despite initial enthusiasm, the presumption that the patient can return for “surgical reversal” by removing the clip appears dubious. The reason for the failure of reversibility is more than likely related to perineural damage of the nerve by the clips, which is usually irreversible.

What is compensatory sweating?

Compensatory sweating is excessive sweat production from skin areas with preserved sudomotor function, such as the abdominal, lumbar, groin, thigh, and popliteal regions, and it is the most common adverse effect of sympathectomy. Its incidence is widely variable and the occurrence of severe compensatory sweating has been reported to be as high as 28%.

The etiology of compensatory sweating is currently unknown, but potentially involves a combination of physical, physiological, and psychological factors.

The most common risk factor cited in the literature for moderate to severe compensatory hyperhidrosis includes T2 ganglion interruption. The number of levels interrupted has been inconclusive as a risk factor.

Patients who are candidates for sympathectomy who are already experiencing increased sweating in the trunk, groin region, or upper thighs should be warned that they are at increased risk of developing compensatory sweating, and the patient should think twice about going forward with the procedure.

Some surgeons utilize a “clipping method” of sympathetic chain interruption as a potentially reversible technique, whereby the clip can be removed if the patient is dissatisfied due to severe compensatory hyperhidrosis. The patient should be advised that, regardless of the method of surgery, the clip procedure should be considered irreversible [38].

Which treatment is used for plantar hyperhidrosis?

When the main symptom is plantar hyperhidrosis (sweat in the feet) the treatment is lumbar sympathectomy.

In other cases in which the plantar hyperhidrosis is accompanied by palmar and/or axillary hyperhidrosis, the usual recommendation is to first treat the hands or axilla because after thoracic sympathectomy many patients present amelioration of their feet symptoms. In this situation lumbar sympathectomy is reserved for cases where there was no improvement of the foot symptoms.

What kind of anesthesia will be required during sympathectomy?

Although it is possible to carry out endoscopic sympathectomy with local anesthesia, it is much safer to do it with general anesthesia.

Should I take analgesic medication after video-assisted sympathectomy? For how long?

The range of intensity of how people experience pain varies a lot, but most people complain of pain for 2 weeks after video-assisted sympathectomy. The most

common complaint is thoracic pain in the first 3 days (perhaps related to residual air in the pleural space) and back pain for 10 days.

Your surgeon will probably prescribe some analgesic medication so you can go through this period without strong discomfort.

Suggested Reading

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