

# Management of Primary Hyperhidrosis with Sympathetic Block: A Case Report

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## ABSTRACT

Hyperhidrosis is an unusual condition characterized by excessive sweating, which results in social embarrassment and workplace impairment. Although several treatment options are available, the use of sympathetic block in certain patients is an important tool as a part of multimodal approach in the management of this condition.

**Keywords:** Epidural catheter, Hyperhidrosis, Sympathetic block.

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## INTRODUCTION

Hyperhidrosis is a condition characterized by sweating in excess of what is needed for the maintenance of physiologic homeostasis. Prevalence of this condition worldwide is approximately 3%, whereas in India it is reported to be higher, particularly in summer.<sup>1</sup>

It is of two main types I—primary and II—secondary.

Type I—primary is seen in adolescents and young adults and half of these patients report a similar condition in a family member. The most common sites of excessive sweating are axilla, soles, palms, and face in that order. It is accompanied by a variety of psychologic impairments, the most common being depression, and workplace limitations.<sup>2</sup>

Type II—secondary to medical conditions such as drug intake, endocrinopathies, malignancies, or certain neurologic diseases.<sup>3</sup>

The treatment options are topical applications, oral anticholinergic medications, local botulinum toxin injections, axillary curettage, liposuction, and sympatholytic techniques, which can be either neurolytic sympathetic block or surgical sympathectomy.<sup>4</sup>

## CASE DESCRIPTION

A 23-year-old man, working as a clerk in the army, visited our pain clinic with a complaint of profuse sweating in both palms and soles resulting in disturbed working conditions, such as writing and embarrassment during social interactions. These symptoms were absent during sleep and he had no family history of similar complaints. The clinical examination and investigations, such as ultrasound of abdomen, blood work-up, including thyroid studies, serum cortisol levels, and blood sugar levels were all normal. He was put on low-dose anticholinergic medications with minimum or no relief of symptoms. After a detailed discussion of pros and cons and obtaining informed written consent, he was posted for diagnostic lumbar epidural followed by a sympathetic block.

An epidural catheter was inserted at the L3 level with fluoroscopic control and infusion of inj. ropivacaine (0.2%) at 3 mL per hour was started to achieve a temporary sympathetic block. After 4–5 hours of infusion, sweating reduced considerably; however, it was noticed that the patient had difficulty in dorsiflexion of the left foot. The right foot was normal. It was decided to reduce the rate of infusion to 2 mL per hour. Within few hours of the reduced rate of infusion, the difficulty in dorsiflexion in the left

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foot became corrected; and he was encouraged to ambulate and perform his usual activities.

The sweating in hands and legs decreased from a patient-reported score of 100/100 preprocedure to 25/100 after insertion of an epidural catheter. This was suggestive of a successful sympathetic block. The complete catheter was removed after 48 hours and a drug wash-out period of 36 hours was given. Taking his age into consideration and effective diagnostic lumbar sympathetic block, a neurolytic lumbar sympathetic block of the left side, and local anesthetic right stellate ganglion block was planned.

With the anesthetist stand by, monitoring of vital signs and under fluoroscopy, neurolytic left lumbar sympathetic block (Fig. 1), and right local anesthetic stellate ganglion block (Fig. 2) was performed. The neurolysis was performed with 6 mL phenol (6%) solution in glycerol and equal volumes of 0.5% inj. bupivacaine. This was immediately followed by the injection of a mixture of inj. lignocaine 1% (5 mL) plus inj. bupivacaine 0.25% (5 mL) into the right stellate ganglion. The patient had signs and symptoms of Horner's syndrome such as pinpoint right pupil and hoarseness of voice for few hours. Otherwise, both procedures were uneventful.

He was counseled regarding the nature of the condition, its management, and stress reduction. The patient was discharged 2 days after the performance of neurolytic block with sweating scores of 25/100. He was advised to continue oral anticholinergic agent—1 mg of oral glycopyrrolate and 10 mg of amitriptyline per day.

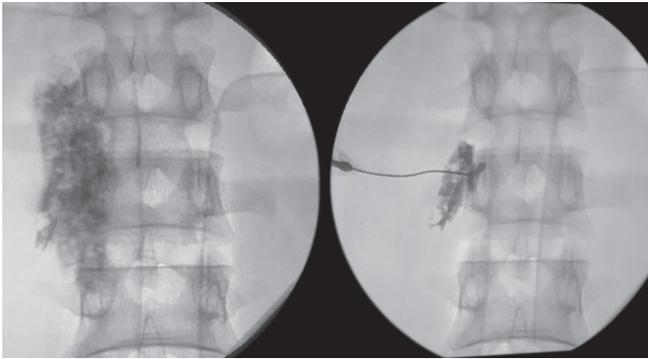


Fig. 1: Lumbar sympathetic block—dye spread and neurolytic drug spread

## DISCUSSION

This patient can be labeled as primary hyperhidrosis (palmoplantar) because of the young age of onset, focal symptoms, no sweating during sleep, and absence of any systemic medical condition. In some cases, the small areas of focal hyperhidrosis can be managed by initially applying starch–iodine to the site of increased sweating, which stains purple followed by botulinum toxin injection to such stained areas.<sup>5</sup> However, the cost of the procedure may be a limiting factor in many patients as in this case. The other options are radiofrequency ablation of the sympathetic ganglion and endoscopic surgical sympathectomy.<sup>6,7</sup> The reported rate of patient satisfaction for surgical procedures is 65%.<sup>8</sup> The side-effects include compensatory and gustatory sweating, Horner's syndrome and neuralgia, which in some cases may be worse than earlier problems.<sup>9</sup>

Sympathetic blocks can be used when focal hyperhidrosis affects a relatively large area and the patient does not wish to undergo surgical treatment. It has the advantage of being relatively safe with minor side-effects such as bleeding, groin pain (due to genitofemoral neuropathy), and the potential risk of damaging vital neural or vascular structures.<sup>10</sup> Kim et al.<sup>11</sup> in a study of 69 patients who underwent lumbar chemical sympatholytic block for plantar hyperhidrosis reported that 56 patients (81.1%) were partially or fully satisfied with the results. Dondelinger and Kurtziel<sup>12</sup> performed T3 level sympathetic neurolytic block on 12 patients using CT guidance for palmar hyperhidrosis and reported results comparable to those achieved by surgery.

Bilateral sympatholysis or sympathectomy is not advisable in one sitting due to the risk of severe hypotension and loss of sexual function as observed by Quayle.<sup>13</sup> We feel in this patient, the oral medications, which were not very useful earlier were probably effective now due to additive effect of the sympatholytic block.

## CONCLUSION

Hyperhidrosis is a less known condition that causes psychologic and social impairment. The sympathetic blockade is safe, with fewer sideeffects compared with surgery, cost-effective, and may be an additional option of treatment along with a multidisciplinary approach.

## WHAT WAS KNOWN

Sympathetic blocks help in hyperhidrosis.

## WHAT IS NEW

- Sympathetic neurolysis can be used for primary hyperhidrosis affecting a relatively larger body area.

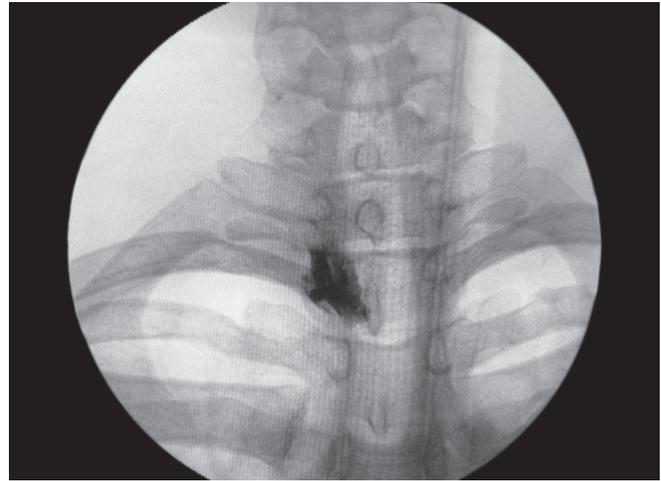


Fig. 2: Stellate ganglion block

- Epidural infusion prior to definitive block may help in deciding the usefulness of the neurolytic procedure.
- Sympatholysis might improve the efficacy of drug treatment.

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