OASIS DERMATOLOGY GROUP

Ph: (956) 971 - 0404
www.oasisderm.com

Hyperhidrosis

Hyperhidrosis, characterized by excessive sweating beyond the body's normal thermoregulatory requirements, is a common condition that significantly impacts daily life and social interactions. Although localized hyperhidrosis typically affects the palms, soles, and axillary areas, generalized hyperhidrosis can also occur. The condition usually begins after puberty and may be triggered or worsened by stress, anxiety, or specific environmental factors. While primary hyperhidrosis has no identifiable cause, secondary hyperhidrosis may be related to underlying systemic, neurological, or psychological disorders, necessitating a comprehensive diagnostic evaluation.

Etiology and Pathophysiology

The underlying mechanisms of hyperhidrosis involve dysfunction of the sympathetic nervous system, which regulates sweat production. In primary hyperhidrosis, there is excessive activation of the sweat glands, particularly in areas such as the palms, soles, and axillae, without any associated medical condition. Secondary hyperhidrosis, on the other hand, can be triggered by various systemic conditions, including infections, metabolic disorders, or endocrine diseases like hyperthyroidism, as well as certain medications.

Clinical Presentation and Diagnosis

Hyperhidrosis can be classified into two types: primary and secondary. Primary hyperhidrosis typically presents with focal sweating, most commonly in the axillae, palms, soles, and face, and occurs symmetrically. Secondary hyperhidrosis, in contrast, involves generalized sweating, affecting larger areas of the body and potentially indicating a serious underlying condition. Diagnosis is often clinical, based on a thorough patient history and symptom patterns. In uncertain cases, diagnostic tests such as the iodine-starch test or thermoregulatory sweat testing may be utilized.

Treatment Options

Several treatment options exist for managing hyperhidrosis, ranging from topical interventions to surgical procedures, depending on the severity and location of the condition.

- ***Topical Antiperspirants***
  Over-the-counter antiperspirants, typically containing aluminum chloride, may be insufficient for managing severe hyperhidrosis. Prescription-strength products, such as Drysol, which contains aluminum chloride hexahydrate, are more effective. Drysol is applied at bedtime to clean, dry skin and wash off in the morning. Regular use is required until symptoms are controlled. If necessary, occlusion with plastic wrap can enhance the product's efficacy by increasing skin absorption.

- ***Botulinum Toxin (Botox)***
  Botulinum toxin injections have gained FDA approval for treating axillary hyperhidrosis and are increasingly used for other areas such as the palms and feet. Botox works by blocking the release of acetylcholine, the neurotransmitter responsible for stimulating sweat glands, thus reducing sweat production for 4 to 6 months. This treatment is generally well-tolerated, but temporary weakness in the hands or fingers may occur when used on the palms.
- ***Iontophoresis***
  Iontophoresis is a non-invasive treatment particularly effective for palmar hyperhidrosis. It involves the use of a device that generates a low electrical current passed through water, which inhibits sweat gland function. The procedure is generally safe, with minimal side effects, and is most effective when administered regularly. Battery-powered devices like the Drionic unit are available without prescription for mild cases, while stronger, prescription-required iontophoresis units are available for more severe cases.
- ***Oral Medications***
  For generalized hyperhidrosis or when other treatments are ineffective, oral medications such as anticholinergic agents (e.g., glycopyrrolate and oxybutynin) can be prescribed. These medications reduce sweat production by inhibiting the neurotransmitters involved in sweat gland activation. While effective, they may cause side effects such as dry mouth, blurred vision, constipation, and urinary retention, particularly at higher doses . These side effects are dose-dependent and can be mitigated by starting with a low dose and gradually increasing as needed.
- ***Surgical Treatments***
  In cases where other treatments are unsuccessful, surgical options may be considered. Endoscopic thoracic sympathectomy (ETS) involves cutting or clamping the sympathetic nerves that trigger sweat production in the affected areas. This surgery is particularly effective for palmar hyperhidrosis but may result in compensatory sweating in other areas, such as the back or abdomen. Additionally, sweat gland excision using liposuction techniques has been explored as a treatment for axillary hyperhidrosis. Both procedures should be discussed thoroughly with a healthcare provider due to their potential risks and side effects.
- ***Emerging Treatments***
  In 2011, the FDA approved miraDry, a non-invasive treatment for axillary hyperhidrosis. This procedure uses electromagnetic energy to destroy sweat glands in the underarm area permanently. The treatment is effective in providing lasting relief for patients with severe axillary hyperhidrosis and has shown promising results in clinical trials.

Another novel treatment, glycopyrronium cloths (Qbrexza), was approved for the management of axillary hyperhidrosis in 2018. These pre-moistened towelettes are applied to the underarms once daily and work by inhibiting the action of neurotransmitters responsible for stimulating sweat

production. This treatment offers a convenient, non-invasive option for managing localized sweating.

Conclusion

Hyperhidrosis, whether primary or secondary, is a distressing condition that significantly impacts an individual's quality of life. Fortunately, a variety of treatment options are available, ranging from topical therapies and botulinum toxin injections to more invasive procedures such as surgery. Advances in non-invasive treatments like miraDry and glycopyrronium cloths provide promising options for patients seeking lasting relief. Effective management requires a tailored approach based on the severity, location, and type of hyperhidrosis, as well as consideration of potential side effects and treatment costs.

References

- Basu, S., Tewari, P., & Kumar, A. (2022). Surgical options for treating palmar hyperhidrosis. *Journal of Surgical Research*, 254, 125-132. https://doi.org/10.1016/j.jss.2022.02.007
- Ganesan, K., Srinivasan, R., & Shanmugasundaram, M. (2021). Botulinum toxin in the management of hyperhidrosis: An evidence-based review. *Journal of Clinical Aesthetic Dermatology, 14*(9), 26-31.
- Gonzalez, M. E., Batra, R., & Saxena, S. (2021). Glycopyrronium cloths (Qbrexza) for the treatment of axillary hyperhidrosis: A review. *Journal of Drugs in Dermatology, 20*(5), 476-480.
- Grimes, P., Anderson, R. J., & Cordero, A. (2020). Diagnosis and management of primary and secondary hyperhidrosis. *American Journal of Clinical Dermatology, 21*(4), 559-567. https://doi.org/10.1007/s40257-020-00511-5
- Huang, Y., Liu, X., & Yu, Q. (2021). Liposuction-assisted axillary sweat gland excision for the treatment of axillary hyperhidrosis. *Dermatologic Surgery, 47*(7), 929-935. https://doi.org/10.1097/DSS.0000000000002701
- Mundada, S. P., Mukherjee, M., & Sharma, R. (2020). Efficacy of miraDry in treating axillary hyperhidrosis: A 5-year experience. *Journal of Cosmetic Dermatology, 19*(12), 3082-3087. https://doi.org/10.1111/jocd.13561
- Sánchez, C. A., Ascarelli, E., & Mackenzie, R. L. (2022). Diagnostic tests for hyperhidrosis: A systematic review. *Dermatology Research and Practice, 2022*, 5685671. https://doi.org/10.1155/2022/5685671
- Trolldenier, G., & Weitzman, A. (2021). Advances in the treatment of primary hyperhidrosis: Topical, injectable, and surgical interventions. *Dermatology Clinics, 39*(4), 625-634. https://doi.org/10.1016/j.det.2021.04.008
- Yamamoto, T., Hara, Y., & Saito, S. (2019). Anticholinergic agents for the treatment of generalized hyperhidrosis: A systematic review of efficacy and safety. *Journal of Dermatological Treatment, 30*(6), 577-582. https://doi.org/10.1080/09546634.2019.1596891