

## Case study

# Treatment of buttock hyperhidrosis with a microwave device

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### ABSTRACT

Severe buttock hyperhidrosis remains very distressing postoperative complication is characterized by excessive and uncontrollable sweating of the buttock after sympathectomy. Although various measures have been implemented to treat nasty troubling sweat, no clear results have been obtained to date. This case report describes the use of a microwave device to treat severe buttock hyperhidrosis. This system is Food and Drug Administration (FDA) approved and proven to be safe and effective for long-term treatment of axillary hyperhidrosis. It has also been shown to be equally effective in the treatment of severe buttock hyperhidrosis. Microwave device showed high patient satisfaction and appropriate treatment outcomes in the present patient.

Keywords: *Hyperhidrosis, microwave, compensatory, sweat, buttock*

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### INTRODUCTION

Severe buttock hyperhidrosis (BH) as part of the compensatory hyperhidrosis (CH) can be side effect after thoracic sympathetic surgery and very challenging to manage. Although the incidence of CH differs in various reports, many patients expressed regretful to surgery[1].

Currently, conservative and surgical treatments have been proposed. Results have not reached the level of satisfaction. Botulinum toxin injection is very effective but due to cost and the need to be constantly repeated[2].

A microwave device (MD) has appeared that has been developed for a non-surgical treatment designed to permanently reduce sweat through thermoablation of sweat glands. Long-lasting results are expected in view of treating axillary hyperhidrosis[3]. This report describes MD use for severe BH.

### CASE REPORT

A 43-year-old man in good health presented clinic for hyperhidrosis with recurrent severe sweating of buttock after thoracic sympathectomy because of palmar hyperhidrosis 17 years ago. The patient had frequent experiences of heavy sweating when stressful condition or during change in environment temperature. He suffered from excessive sweating of buttock and groin region is constantly sweaty and uncomfortable. His pants were soaked due to the sweating of his buttock and groin. The chest and back of the trunk may also sweat excessively, but he first tried to treat the BH because it was the most stressful in social

activities, especially during the hot summer months. The Hyperhidrosis Disease Severity Scale (HDSS) score was 5 and the Dermatology Life Quality Index (DLQI) score was 27. His previous treatment included glycopyrrolate and botulinum toxin with limited time of effectiveness before he was treated with a MD.

Tumescent anesthetic procedure was applied to the whole targeted area prior to initiation of microwave thermal ablation with 240 ml of standard tumescent solution. The syringe adapter anesthesia delivery protocol was adopted[4]. Once anesthesia was done; the region of the buttocks and groin were marked with a temporary tattoo template (Fig. 1).



Figure 1. Application of microwave device after placing temporary tattoo templates on the patient's affected buttocks and the groin

Affected buttocks and the groin were performed thermoablation of sweat glands in one session with the MD. The therapeutic device used was the MiraDry system (Miramar Labs, Inc., Sunnyvale, CA, USA) for the treatment of axillary hyperhidrosis. The energy of the microwave was delivered as level 5, which affected sweat glands at a depth of 3–5 mm from the skin after tumescent anesthesia over the whole targeted focal surface. The patient tolerated MD well in areas that the procedure was successfully performed. Ice was applied instantly after the procedure. Postoperative side effects included transient erythema, mild edema and minor burning sensation for 1–2 days. Serious adverse effects were not observed.

One year after the treatment, the patient informed considerably reduced sweating of the treated region and further sweating in other areas were not observed. The HDSS and DLQI values were significantly improved to 2 and 5. He reported decrease in sweating during daily life and social activities, leading to a better quality of life.

## DISCUSSION

More sweat of buttock is universal in certain situations, such as during a workout. But severe BH after sympathetic surgery is not common and it cause embarrassment with discomfort in social life. The sweat from the buttocks flows down toward the anus, and the sweat on the thighs wets the bottoms, leading to painful days. Patients are severely distressed by the psychological and social impact of BH, and his quality of life had gradually worsened. Nevertheless, these days, when the strategy for prevention is not clear, the medical community is not showing much interest in being in the medical blind spot.

There are many different types of treatments that have been suggested. Pharmacological

treatment can reduce buttock sweat. However, it plays a supporting role and is generally unassuming in handling CH[5]. Botulinum toxin injection is relatively long-lasting and considered to be highly effective, but cost high and not permanent[2]. Lumbar sympathectomy and ganglion impar block with alcohol is an effective method of controlling BH[6,7]. But it is still early to conclude that both sympathetic blocks will benefit excessive BH. Because this does not apply to all patients because the anatomy is different from one person to another. As more information and experiences has added more precise answers can be given.

MD has been approved by the FDA and demonstrated to be safe and effective for the long-term treatment of axillary hyperhidrosis[3]. MD was previously used in the axilla but we applied this system to severe BH. However, its applicability in CH including BH to achieve a permanent cure in the absence of clear treatment procedures and management methods is rather unique[8]. MDs have been shown to have a clinical efficacy of approximately 80% for the armpit and provides a rationale for treating BH[9]. In this respect, MDs provide an alternative to permanent solutions for severe BH.

The patient tolerated the procedure well and was satisfied with a promising reduction in uncontrolled sweating with minimal complications. The FDA-approved MD is only applicable to treat axillary hyperhidrosis, but can be applied to various parts of the body to overcome CH including BH[8]. Sympathetic nerve surgery is an irreversible operation complicated with BH, whereas MD has the advantage of non-invasive and repeatable procedures with long-term results due to irreversible destruction of sweat glands. However, since it was made for the armpit, the size of the biotip was small, so the procedure took a long time. Also, there was a disadvantage that it was impossible to control the energy.

## CONCLUSION

Although this report shows MD can offer favorable results of treating severe BH after sympathectomy and provides clues for future research, its structural and functional restriction of biotip for axilla use has to be resolved. MD can be applied in a variety of ways in hyperhidrosis, but further controlled studies and clinical experiences will need to elucidate.

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