

Botulinum toxin A for the management of hidradenitis suppurativa

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Hidradenitis suppurativa is a chronic, debilitating condition of apocrine-bearing skin. It is frequently difficult to manage, with multiple modalities often required. The authors present a case of hidradenitis suppurativa managed successfully with botulinum toxin A, and review the existing literature on the topic.

Key Words: Botulinum A toxin; Botulinum toxin type A; Hidradenitis; Hidradenitis suppurativa

Hidradenitis suppurativa (HS) is a chronic, debilitating disease of apocrine-bearing skin (1). It is frequently difficult to manage, requiring multiple treatment modalities and resulting in significant morbidity. Botulinum toxin A (BTXA) has recently been described as a novel management option for patients with HS (2-4). We recently encountered a patient who was successfully treated with BTXA, and present the case in the context of the existing literature.

CASE PRESENTATION

A 23-year-old woman was initially referred for plastic surgical review in September 2010 for delayed reconstruction following incision and drainage of a pilonidal abscess. She was a smoker, was receiving depot progesterone for contraception and took a tricyclic antidepressant. Her pilonidal abscess defect was closed using a superior gluteal artery perforator flap; her postoperative recovery was unremarkable.

In a routine follow-up appointment four months later, she was found to have a small abscess in her left groin and reported a history of previous similar episodes, clinically consistent with a diagnosis of hidradenitis suppurativa. By February 2011, she had developed bilateral groin infections that failed to resolve with antibiotics, and she underwent excision of bilateral groin HS with primary closure.

In the subsequent 20 months, the patient required seven further excisions of HS in both groins, left inner thigh and right buttock. This disease progression occurred despite regular antibiotic use, reduction in smoking and laser hair removal.

In October 2012, the patient received 100 units of BTXA (Botox, Allergan, USA), injected into both groins and inner thighs, with 130 units injected into both buttocks at a subsequent visit. Thereafter, she experienced complete resolution of her symptoms for three months, when she developed a mild infection in her right groin that resolved with oral antibiotics.

Over the subsequent 18 months, she has received five further BTXA treatments, each consisting of 200 units (100 units both anteriorly and posteriorly). There was an interval of four months between

TABLE 1

Hurley staging for severity of hidradenitis suppurativa

Stage	Description
I	Abscess formation without sinus tracts
II	Recurrent abscesses with tract formation and scarring
III	Diffuse involvement, multiple interconnected tracts/abscesses

the most recent two treatments and, in the final month of this interval, the patient developed a minor infective exacerbation requiring operative management.

DISCUSSION

HS is a chronic, debilitating condition of apocrine-bearing skin (1). Although previously considered to be a disorder of apocrine sweat glands, HS is now believed to be a disease of the follicular epithelium (5). Occlusion of hair follicles occurs through keratinocyte plugging, with subsequent engorgement with follicular components and apocrine secretions. This results in rupture of the follicle, dissemination of material and inflammation.

The severity of HS is classified according to Hurley staging (Table 1). Currently, there is little consensus as to the optimal management of HS; multiple treatment modalities have been investigated (6). In all patients, conservative management with weight loss and smoking cessation is recommended, as well as psychosocial support and analgesia as required.

Antibiotics have been shown to be effective in mild to moderate cases. In women, antiandrogen therapy has been shown to reduce disease severity in some cases. Systemic immunosuppression, including cyclosporine and infliximab, has led to significant improvement of moderate to severe disease. In advanced disease, or where medical therapy has failed, surgical treatment can involve radical excision of the affected apocrine glands. Laser therapy and external beam radiation have also demonstrated efficacy and may be useful in selected patients.

The use of BTXA to effectively manage HS has been described in three previous cases. O'Reilly et al (2) reported a 38-year-old woman with a 10-year history of HS affecting the inguinoperineal and axillary regions who had failed medical management. She received 250 units of BTXA and went into complete remission for 10 months.

Feito-Rodriguez et al (3) presented a case of prepubertal hidradenitis affecting the groin in a six-year-old girl who had also failed medical management. The patient went into complete remission following administration of 40 units of BTXA; a relapse at six months was successfully treated similarly.

Khoo and Burova (4) reported a case involving a 46-year-old woman with an 11-year history of Hurley stage II HS. She was treated

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with four courses of BTXA (50 units to each axilla) over a three-year period. She experienced complete remission following her second treatment, with no further exacerbations one year after the fourth treatment.

Botulinum toxin inhibits the release of acetylcholine at postganglionic cholinergic synapses, with subsequent reduction in sympathetic activation of apocrine sweat glands. It is proposed that in HS, the subsequent decrease in apocrine gland activity limits the tendency of follicular rupture and inflammation (2).

BTXA represents a novel and promising treatment option in this complex disease. Further research is required to understand the role of BTXA in management of HS, including the optimal dosage and frequency of administration.

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REFERENCES

1. Jemec GB. Clinical practice: Hidradenitis suppurativa. *N Engl J Med* 2012;366:158-64.
2. O'Reilly DJ, Pleat JM, Richards AM. Treatment of hidradenitis suppurativa with botulinum toxin A. *Plast Reconstr Surg* 2005;116:1575-6.
3. Feito-Rodriguez M, Sendagorta-Cudos E, Herranz-Pinto P, de Lucas-Laguna R. Prepubertal hidradenitis suppurativa successfully treated with botulinum toxin A. *Dermatol Surg* 2009;35:1300-2.
4. Khoo ABS, Burova EP. Hidradenitis suppurativa treated with *Clostridium botulinum* toxin A. *Clin Exp Dermatol* 2014;39:749-50.
5. Slade DE, Powell BW, Mortimer PS. Hidradenitis suppurativa: Pathogenesis and management. *Br J Plast Surg* 2003;56:451-61.
6. Rambhatla PV, Lim HW, Hamzavi I. A systematic review of treatments for hidradenitis suppurativa. *Arch Dermatol* 2012;148:439-46.