

Remission of hidradenitis suppurativa after bariatric surgery



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Key words: bariatric surgery; hidradenitis suppurativa; insulin resistance.

BACKGROUND

Hidradenitis suppurativa (HS) is a debilitating chronic inflammatory skin condition characterized by recurrent, painful abscesses, nodules, and draining sinus tracts. The primary sites of involvement are the intertriginous skin areas of the axilla, groin, perianal, perineal, and inframammary regions. The prevalence of HS is estimated to be 1% to 4%,¹ and HS patients are more likely to be obese. A study conducted by Revuz et al² found an increase of the risk of HS by 1.12 for each unit increase in body mass index (BMI).

The treatment of HS is notoriously challenging. Options available include medical treatments in the form of topical and systemic medications and surgery and lifestyle modification such as weight loss and smoking cessation. We report on 2 patients who experienced remission of HS after bariatric surgery.

REPORT

Patient 1

The first patient was a 40-year-old Polish, Fitzpatrick type II, obese (BMI, 53 kg/m² pre-bariatric surgery) man who had a long history of painful furuncles in the axilla and groin (HS Hurley stage 1) and a 5-year history of folliculitis affecting the back of his scalp (folliculitis decalvans). He was an ex-smoker for more than 20 years, and his HS had only ever been treated with antibiotics. The patient then underwent Roux-en-Y bariatric surgery in January 2014, which resulted in 33 kg of weight loss and a reduction in BMI from 53 kg/m² to 44 kg/m², which resulted in complete resolution of his HS. He remains on rifampicin, 300 mg twice daily, and

Abbreviations used:

BMI:	body mass index
HS:	hidradenitis suppurativa
HOMA-IR:	homeostasis model of insulin resistance
IR:	insulin resistance

clindamycin, 300 mg twice daily, for the treatment of persistent folliculitis.

Patient 2

The second patient was an Irish 51-year-old male smoker with Fitzpatrick skin type II, who had Hurley stage II HS affecting his groin, axilla, and abdominal pannus. The patient was morbidly obese, weighing 136.8 kg with a BMI of 49 kg/m².

He did not respond to multiple courses of antibiotics, including lymecycline, 300 mg once daily and 2 courses of the combination of rifampicin and clindamycin, both 300 mg twice daily. He was then started on adalimumab, 40 mg subcutaneously once weekly. Despite this treatment, he had persistent nonresolving nodules in his right axilla for which he was referred to the surgical department for incision and drainage. In the interim, he required an acute admission for cellulitis of the right axilla for which he was treated with a prolonged course of intravenous ertapenem, 1.5 mg once daily. He recovered well and maintained reasonable control on adalimumab for 14 months. The patient underwent Roux-en-Y bariatric surgery in July 2015 with a weight loss of 54.2 kg. Four months postoperatively, his HS was quiescent off all treatment.

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Funding sources: None.

Conflicts of interest: None declared.

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JAAD Case Reports 2017;3:436-7.

2352-5126

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<http://dx.doi.org/10.1016/j.jidcr.2017.06.008>

Table I. Comparison of pre- and post-bariatric surgery metabolic indices in the 2 cases

Patient	HS	Prebariatric	Postbariatric
40 M	Hurley stage II Duration: 10 y Nonsmoker	Weight:	Weight:
		185 kg	152.2 kg
		BMI: 53	BMI: 44
		HbA1c: 41	HbA1c: 37
		Glucose: 5.2	Glucose: 5.3
		Insulin: 26.8	Insulin: 9.3
51 M	Hurley stage II Duration: >15 y Smoker	HOMA-IR:	HOMA-IR:
		6.19	2.19
		Weight:	Weight:
		136.8 kg	98 kg
		BMI: 49	BMI: 35
		HbA1c: 36	HbA1c: 31
Glucose: 4.8	Glucose: 5.3		
Insulin: 18.2	Insulin: 10.5		
HOMA-IR:	HOMA-IR:		
3.88	2.47		

BMI, Body mass index; HbA1c, glycated hemoglobin; HOMA-IR, homeostasis model of insulin resistance; HS, hidradenitis suppurativa.

DISCUSSION

To our knowledge, there has only been one other case reported in the literature to date that describes successful treatment of HS after bariatric surgery. This case, reported by Thomas et al,³ describes a 52-year-old man with long-standing treatment-refractory HS that regressed significantly within weeks of bariatric intervention.

A Danish study looked at the prevalence of HS in an obese population (BMI >30) undergoing bariatric surgery (gastric bypass or banding). These authors found the prevalence of HS appears higher in the obese than in the background population, and a weight loss of more than 15% is associated with a significant reduction of disease severity.⁴

High BMI might influence HS pathogenesis in several ways: the obese have a larger surface area of skin resulting in more friction from skin folds, the humid microclimate in skin folds favors bacterial growth, and obesity itself creates a low-grade systemic inflammatory state; hence, weight loss is likely to have a positive effect on the condition.⁵ This finding is borne out by a recent study by Boer et al⁶ in which weight loss achieved by dietary restriction improved HS, particularly in frictional areas.

Increased BMI also incurs metabolic consequences particularly insulin resistance (IR), and an association between Psoriasis Area and Severity

Index and IR as measured by Homeostasis Model of Insulin Resistance (HOMA-IR = Glucose x Insulin/22.5 > 2.5) has been found.⁷ However, there are limited studies looking at the relationship between metabolic alterations such as insulin resistance in HS.

Insulin has an important role in homeostasis and physiology of the skin and has protean cutaneous manifestations.⁸ In screening in our HS clinic, we have found a high prevalence of IR in our HS patients (55%), and recent observations suggest HS may be a cutaneous manifestation of IR. Interestingly, bariatric surgery results in a marked improvement in insulin resistance as is evidenced by our patients (Table D), and it is possible that some of the clinical improvement observed may be associated with reduced levels of insulin.

CONCLUSION

Bariatric surgery resulted in an improvement in HS, based on the 2 cases we report and 1 case reported in the literature thus far. Whether this improvement is the result of weight loss alone or the combined effect of weight loss and improvement in insulin sensitivity is unclear. It is therefore essential to encourage obese HS patients to lose weight to improve cardiovascular and metabolic risk but also to ameliorate disease severity.

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