Correspondence

Long-standing hidradenitis suppurativa treated effectively with metformin

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We report a case of long-standing hidradenitis suppurativa (HS) that improved with metformin. A 50-year-old woman with known seronegative arthritis and type 2 diabetes mellitus presented with an 18-year history of recurrent abscesses in the flexures. She is one of 10 siblings. Two of her younger sisters had been diagnosed with polycystic ovarian syndrome (PCOS) and one older sister with type 2 diabetes mellitus.

At presentation, the patient’s weight was 146 kg, and she had lost 63 kg in weight between 1995 and 2000. She had been taking metformin 500 mg three times daily for her type 2 diabetes mellitus for > 5 years until 2005. While she was on metformin, the HS was stable without the need for recurrent courses of antibiotic treatment. Her glycaemic control improved so much that the metformin was discontinued in 2005 and her diabetes remained

Figure 1 Hidradenitis suppurativa in the left axilla (a) during treatment with metformin 500 mg (b); 4 months after commencement of metformin, when the patient was on 1 g/day.
controlled by diet. However, since the discontinuation of metformin, she had noticed a flare of the HS. She was treated with repeated courses of flucloxacillin in the community and was referred to our department in 2005.

On physical examination, the patient was found to have comedones, marked scarring and sinus formation in the axillae, groins and the inframammary region consistent with HS (Fig. 1a). She did not have features of acanthosis nigricans or PCOS. Initially, lymecycline greatly improved the sinus formation in the right axilla, both groins and the inframammary region. She could not tolerate erythromycin or clindamycin when she had flares of her HS. The sinus and abscess formation in the left axilla was resistant to antibiotic therapy and the resulting pain was limiting movement in this arm. The patient declined therapy with acitretin and dapsone due to the potential side-effects. However, she was keen to have a trial of metformin as she felt that she had not required such frequent courses of antibiotics while on metformin previously.

As a trial, we started the patient on metformin with a small dose of 500 mg once daily, which she tolerated well. Within 3 months, she had noticed less frequent flares of HS, and each lasted for a shorter duration. We increased the dose of metformin to 1 g/day. The sinus formation and leaking abscess on her left axilla dried up quite markedly 4 months after the initiation of metformin (Fig. 1b) and the patient was advised to continue this therapy until further follow-up. She had also noticed that the pain in her left axilla had greatly reduced since the commencement of metformin. She tolerated metformin without any side-effects and her glycaemic control was excellent.

HS is a chronic relapsing inflammatory disorder of the apocrine gland-bearing areas due to follicular occlusion, resulting in the formation of abscesses, subcutaneous nodules, sinus tracts and scarring. Crohn’s disease, Dowling–Degos disease and seronegative arthritis can be associated with HS. Stellon et al. reported patients developing HS while taking oral contraceptives containing high androgens and a low oestrogen to progesterone ratio.

Impaired glucose tolerance and diabetes mellitus can also be associated with HS. There have been reports in the literature that metformin can be an effective treatment in patients with hyperandrogenism, insulin resistance and acanthosis nigricans (HAIR-AN syndrome). The HAIR-AN syndrome is one presentation of the insulin-resistant subset of polycystic ovary syndrome. Metformin improves peripheral glucose utilization, and reduces insulin resistance and hyperinsulinaemia. In addition to improving acne and hirsutism, it also reduces free testosterone and androstenedione levels in patients with PCOS. In our patient, HS was associated with seronegative arthropathy and insulin resistance. She was postmenopausal and had never had menstrual irregularities, acne or hirsutism when she was young. The effects of metformin on insulin resistance, hyperandrogenaemia and free testosterone levels in the blood would help to improve the underlying pathogenesis of HS and support the view that metformin can have a favourable outcome in patients with HS.

To our knowledge, there have not been any previous case reports of HS treated with metformin when it is not associated with PCOS. This case report suggests that metformin might be a treatment option for patients with debilitating HS associated with obesity and insulin resistance if antibiotic therapy has failed. This treatment might be a useful alternative to other systemic treatments, which can cause significant side-effects.

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References