

## Case Report

# Remission of Psoriasis after Open Gastric Bypass

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Psoriasis is a frequent skin disease, affecting 2% of the world's population. Stress, alcohol, smoking and obesity may be associated with psoriasis. A 56-year-old man with BMI 46.9 kg/m<sup>2</sup>, hypertension and gastroesophageal reflux, had severe psoriasis for the last 39 years, without any remission on multiple treatments. Psoriatic papules and plaques were noted on his face, dorsum of hands, buttocks, knees, and elbows. He underwent open Roux-en-Y gastric bypass. At 4-month follow-up, the patient had lost 23 kg or 34.8% of excess weight, and presented complete remission of the psoriasis without medications. Bariatric surgery for positive metabolic, psychological and lifestyle consequences should be considered a treatment of psoriasis. Long-term observation is necessary.

*Key words:* Psoriasis, gastric bypass, morbid obesity

## Introduction

Psoriasis is a common chronic inflammatory skin disease that affects approximately 6 million people in U.S.A, crossing the boundaries of sex, age, and race. For most patients, the diagnosis of psoriasis marks the beginning of a lifelong struggle, with cycles of remission and exacerbation.<sup>1</sup>

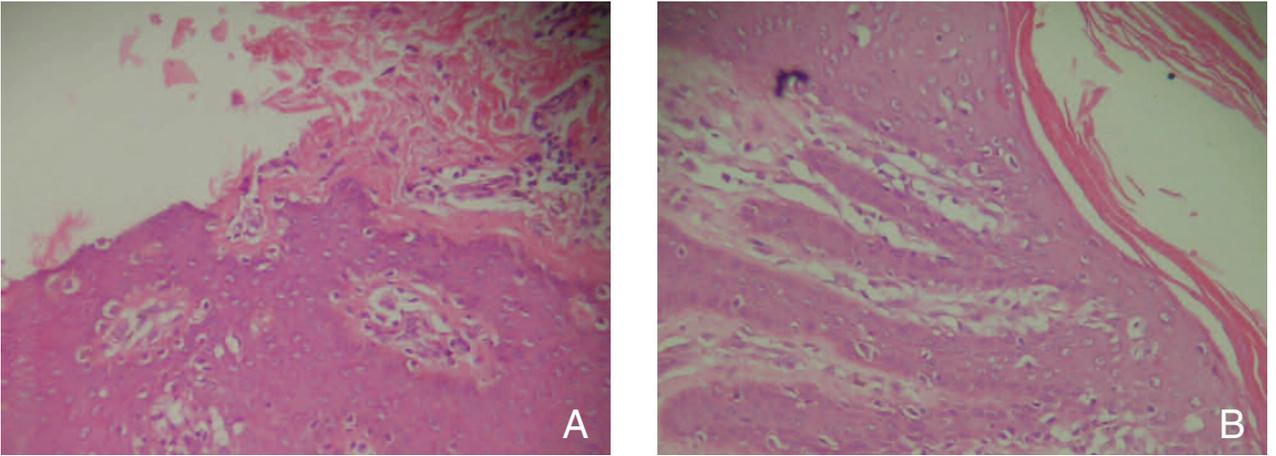
Numerous studies suggest that emotional stress, alcohol use, smoking and obesity may have an association with psoriasis.<sup>2-8</sup> Recently, Higa-Sansone et al<sup>9</sup> described the first case of remission of psoriasis after laparoscopic Roux-en-Y-gastric bypass (RYGBP). We present a second case of a patient with total remission of psoriasis 4 months after open RYGBP.

## Case Report

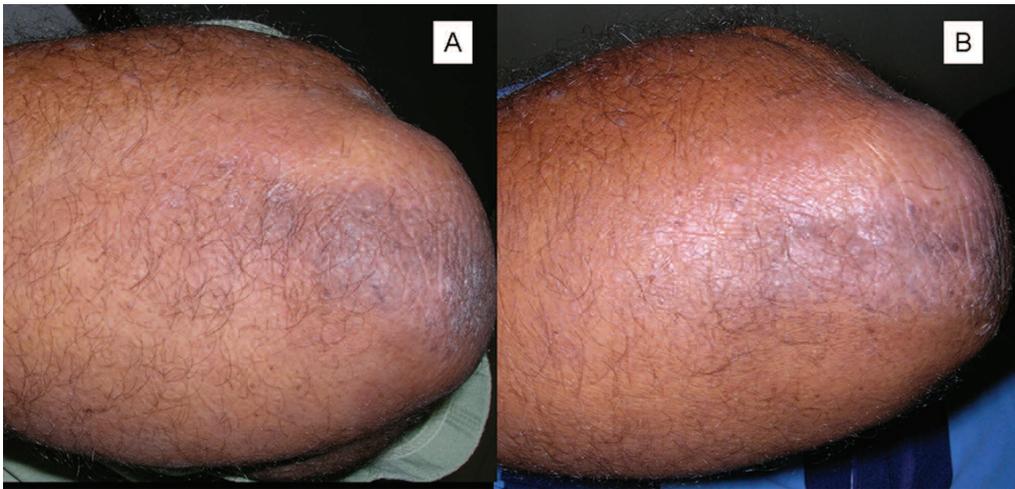
A 56-year-old mulatto morbidly obese man presented to our surgical unit for bariatric evaluation. His height was 162 cm and weight 123 kg, with body mass index (BMI) 46.9 kg/m<sup>2</sup>. He had hypertension, gastroesophageal reflux disease, and previous open cholecystectomy. He also suffered from severe psoriasis for the past 39 years without periods of remission, and submitted to multiple treatments without resolution. He reported an intermittent treatment with vaseline, salicylic acid and clobetasol propionate (Psorex<sup>®</sup>). On physical evaluation, psoriatic papules and plaques, some thick and scaly, were noted on the face, dorsum of the hands, buttock area, knees, hands, and elbows. Before bariatric surgery, a skin biopsy was performed and confirmed the diagnosis of psoriasis (Figures 1, 2 and 3).

In June 2005, he underwent open RYGBP. We generally apply a silastic ring (Capella), but a band

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**Figure 1.** Skin biopsies before RYGBP. Histopathology shows: A. parakeratosis, absence of the granular layer; increased vascularity of the papillary dermis; discrete sparse perivascular lymphocytic infiltrate; collections of neutrophils in the parakeratotic stratum corneum (Munro's microabscess). B. regular acanthosis with suprapapillary thinning; increased vascularity of the papillary dermis; discrete sparse perivascular lymphocytic infiltrate; the elongated and narrowed rete ridges impart a "comb-like" appearance to the epidermis.



**Figure 2.** A. Left elbow 2 months after RYGBP. B. Left elbow 4 months after RYGBP.



**Figure 3.** A. Right hand hypochromic lesion at early psoriasis remission 2 months after RYGBP. B. Right hand psoriasis remission 4 months after RYGBP.

was not used due to the autoimmune character of psoriasis. There were no complications and he was discharged from hospital on the 4th postoperative day. At 4-month follow-up, the patient had lost 23 kg or 34.8% of his excess body weight, and presented total remission of the psoriasis without using specific medications since surgery.

## Discussion

Psoriasis is one of the most frequent skin problems, affecting 2% of the world's population.<sup>10</sup> It is a remitting inflammatory skin disorder that is mediated by T-cells, dendritic cells and inflammatory cytokines.<sup>11,12</sup>

Although it occurs at all ages, psoriasis has two peaks of onset, one in adolescents and young adults and the other in older persons.<sup>13</sup> The influence of ethnic factors is evident when one compares prevalence rates. Prevalence among the black population (0.45 to 0.7%)<sup>14</sup> is far lower than that in the remainder of the U.S. population (1.4 to 4.6%).<sup>15</sup>

One theory of the pathogenesis of psoriasis is that it is primarily a disorder that involves the proliferation of keratinocytes, with secondary inflammation. Another theory is that psoriasis is primarily a disorder of inflammatory cells and that the striking proliferation of keratinocytes is a secondary phenomenon.<sup>13</sup>

Although most individuals with plaque psoriasis have mild or moderate disease that affects small areas of the skin, some have extensive disease that is severe and difficult to treat<sup>13</sup> and may pursue an unpredictable course, with spontaneous improvement or exacerbation of the lesions.<sup>16</sup> Visible manifestations of psoriatic disease are circumscribed thickened plaques covered by silvery-white scales, that may be pruritic, and are found most often on elbows, knees, buttocks, umbilicus, scalp, and sites of local trauma (Koebner phenomenon).<sup>12,17</sup> The patient reported in this paper has had extensive disease during the past 39 years without success from clinical treatments. Although he was operated by open surgery, which has a larger scar compared with laparoscopic procedures, he did not develop the Koebner phenomenon – the same as in the case reportedly by Higa-Sansone et al.<sup>9</sup> His remission commenced immediately after the RYGBP operation, with no evidence of skin disease by 4 months.

Naldi et al<sup>5</sup> recently report results from a case-control study conducted at 21 Italian dermatology centers from 1988 to 1997, comparing 560 patients with a first diagnosis of psoriasis. Their study identified 3 modifiable risk factors associated with psoriasis: smoking, increased body mass, and stressful life events.<sup>5</sup> Although the effect of stress on the inflammatory process of psoriasis is not clearly understood,<sup>9</sup> various reports assert that stressful events aggravate the disease.<sup>18-22</sup> Dellavalle et al<sup>24</sup> argue that obesity, because of its long-term onset, and smoking, presumably because of its addictive nature, were exposures likely preceding by years the onset of psoriasis.<sup>24</sup>

The relationship between increased body weight and severity of psoriasis is conspicuous.<sup>25,26</sup> The patient reported in this paper lost 23 kg after the RYGBP, which must have contributed to the remission. Higa-Sansone et al<sup>9</sup> claim that stretching of the skin by underlying fat may worsen psoriasis.<sup>9</sup>

There was no smoking history in the patient described above. However, stressful events are common in obese individuals, because they are victims of discrimination, depression, social isolation, and comorbidities such as hypertension, diabetes, obstructive sleep apnea and arthritis.<sup>27,28</sup> The patient reported in this paper is a truck driver – a very stressful occupation – which could also have contributed to exacerbations of psoriasis. However, he returned to truck-driving, and has had no recurrence. Although psoriasis is rarely life-threatening, it is frequently associated with stigmatizing chronic lesions that can cause considerable physical and psychological morbidity.<sup>1</sup> In obese patients, it is worse because they are already victims of prejudice about their weight and silhouette.

## Conclusion

Weight loss by bariatric surgery, resulting in positive metabolic, psychological and lifestyle consequences, should be considered as a treatment for marked psoriasis in the obese. Long follow-up will be necessary to determine if regain of weight, stressful experience, smoking or drinking will occur and if psoriasis will recur.

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