Case Report

Is Prophylactic Immunosuppressive Therapy for Patients with a History of Postsurgical Pyoderma Gangrenosum Necessary?

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Abstract

Postsurgical pyoderma gangrenosum (PSPG) is a rare but serious surgical complication with a predilection for the breast and abdomen. Immunosuppression is the mainstay of treatment of PSPG. In addition, it has become a common practice for clinicians to prophylactically treat patients with a history of PSPG with corticosteroids or immunomodulators during subsequent operative procedures to prevent recurrence. Although many practitioners have reported successful outcomes with these measures, currently no protocol exists for prophylactic perioperative therapy. Here, we present the clinical course and 10-year follow-up of a woman who developed PSPG after undergoing body-contouring surgery, subsequently underwent multiple operative procedures without prophylactic immunosuppression, and has not experienced recurrence of PSPG. This case suggests that prophylactic therapy may not be necessary in all patients with a history of PSPG and shows that further research into the use of perioperative immunosuppression to prevent PSPG recurrence may be warranted.

Keywords: Autoimmune skin disease, pyoderma gangrenosum, surgical complication

Key Message: The use of prophylactic perioperative immunomodulator therapy may not be necessary for all patients with a history of postsurgical pyoderma gangrenosum.

Introduction

Postoperative development of pyoderma gangrenosum at surgical sites is known as postsurgical pyoderma gangrenosum (PSPG), a rare complication with predilection for the breast and abdomen.[1] It is a common practice to prophylactically treat patients with a history of PSPG with corticosteroids or other immunomodulators before subsequent operative procedures to prevent recurrence. Many practitioners have reported successful outcomes with these measures, but no consensus exists concerning this practice.[2-4]

We present the clinical course and 10-year follow-up of a woman who developed PSPG after undergoing body-contouring surgery, subsequently underwent multiple operative procedures without prophylactic immunosuppression, and has not experienced recurrence.

Case Presentation

A 37-year-old Caucasian woman presented with postsurgical wound breakdown following outpatient breast reduction and abdominoplasty supplemented with suction-assisted lipectomy. The patient presented to her first postoperative visit with inflamed, erythematous surgical sites and high-grade fever of 103.6°F. The patient was started empirically on cephalexin and ciprofloxacin without resolution of symptoms. The results of wound, blood, and urine cultures were found to be negative. The patient was admitted to the hospital 3 days later for suspected infection. Repeat radical debridements over the following 2 weeks revealed dramatic wound dehiscence. The results of repeat wound cultures were found to be positive only for contaminant microorganisms. The patient remained febrile throughout her hospital course,

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with peak white blood cell count of 55,000. Abdominal skin biopsies revealed ulceration, severe necrosis, and significant neutrophilic and lymphocytic inflammation.

The patient was started on a course of oral steroids and discharged from the hospital the following week. The ulcerations continued to expand despite treatment, and the patient was subsequently transferred to our academic institution for evaluation 1 month after initial symptom onset. Physical examination was remarkable for full-thickness skin loss extending over the entire surface of both breasts with sparing of the nipple–areola complex, along with full-thickness skin loss extending over the lower abdomen with umbilical sparing [Figures 1-3]. Infectious disease and dermatology consults were obtained on admission. Dermatology reviewed prior histopathology, which showed acute inflammatory changes of the epidermis and dermis. PSPG was diagnosed, and the patient was initiated on prednisone 60 mg daily and cyclosporine 100 mg twice daily, with rapid improvement of symptoms.

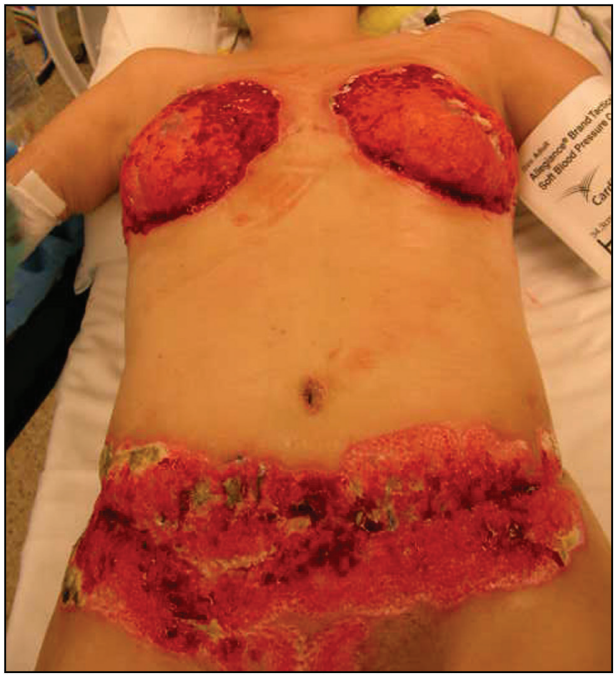

Figure 1: Anterior view of patient's wounds on initial presentation to our institution

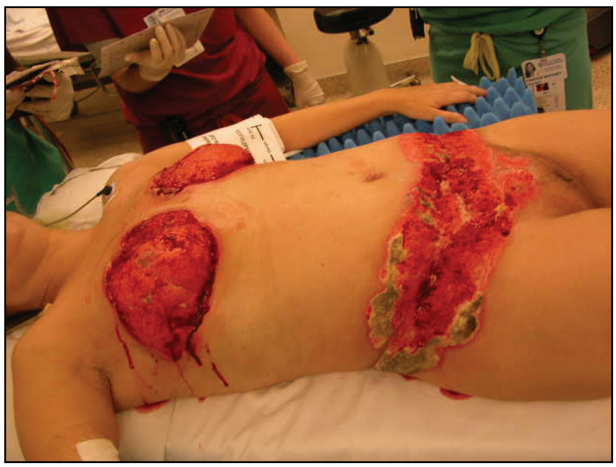

Figure 2: Anterolateral view of patient's abdominal wounds on initial presentation to our institution

Two days after admission, the patient was taken for incision and drainage. Surgical excision was limited to the wound bed itself. Punch biopsy showed resolution of inflammatory changes noted on initial biopsy. Five days later, the patient underwent bilateral breast split-thickness skin grafting and vacuum-assisted wound closure. These grafts survived with only minimal loss. The abdomen was closed with a split-thickness skin graft 2 weeks later. Ultimately, the patient was discharged home 9 days later, 2 months after symptom onset, on a prednisone taper and cyclosporine 100 mg daily. Complete healing of the breast and abdominal wounds occurred over the next month with some hypertrophic scarring.

The patient has subsequently been followed by our practice for the last 10 years for scar management [Figure 4]. During this time, the patient has undergone major revisions of the breast and abdominal scars on three separate occasions as well as a laparoscopic cholecystectomy 4 years after resolution of symptoms. The patient declined prophylactic therapy with corticosteroids or immunomodulators before any of these surgical procedures. Remarkably, she has not experienced recurrence of PSPG after any of these operative procedures.

Discussion

Our patient has successfully undergone multiple operative procedures without prophylactic immunosuppression since initially developing PSPG over 10 years ago. Although it has become a common practice for clinicians to administer perioperative corticosteroids or immunomodulators to prevent recurrence in patients with

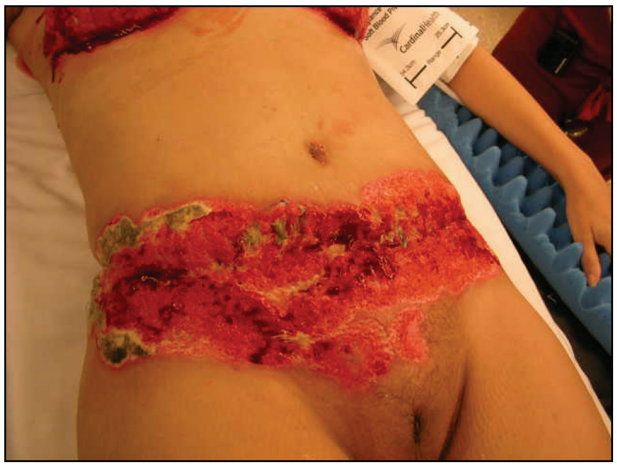

Figure 3: Lateral view of patient's wounds on initial presentation to our institution

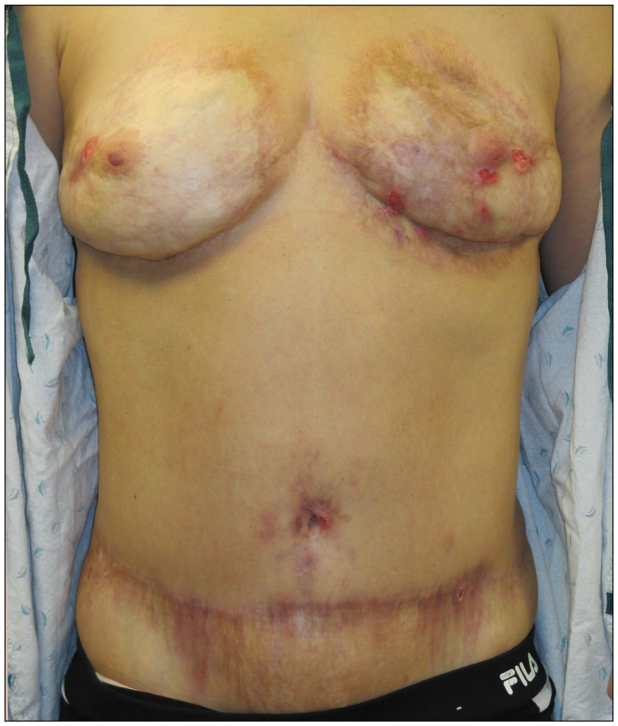

Figure 4: Recent photograph of same patient 10 years after her initial presentation

a history of PSPG, this case shows that this practice may not be necessary. Current evidence for this practice hinges on a handful of case reports and one 2015 case series of 19 patients considered at risk for PSPG.[4] To date, no clinical trials have been performed to assess the efficacy of this practice, largely due to the ethical implications of withholding a treatment that has shown anecdotal success in preventing potentially devastating recurrences. However, corticosteroids and immunomodulators are charged with a myriad of potential adverse reactions and side effects, and this case shows that it might be possible to avoid recurrence of PSPG without subjecting patients to potential complications of immunosuppressive therapy. We recommend that clinicians thoroughly discuss the risks and benefits of prophylactic immunomodulator therapy with their patients before making treatment decisions.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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