

Azacitidine Related Pyoderma Gangrenosum

Tamim Alsuliman^{1,2}, Karima Debbache¹, Maelle Terrom¹, Elisabeth Maillot², Kaiss Lassoued¹ and Bachra Choufi^{1*}

¹Department of Hematology, Boulogne-sur-Mer Hospital Center, Boulogne-sur-Mer, France

²Department of Hematology, Center Hospitalier Régionale Universitaire, Lille, France

³Cabinet of Anatomy and Pathological Cytology, Saint Omer Cedex

*Corresponding author: Bachra Choufi, Department of Hematology, Boulogne-sur-Mer Hospital Center, Boulogne-sur-Mer, France, Tel: 861033520; E-mail: b.choufi@gmail.com

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Introduction

Pyoderma gangrenosum (PG) is a not well understood, rare but serious, inflammatory skin disease characterized by skin ulcers, whose treatment is mostly empirical and consists of Cyclosporine or Steroids, according to patient's risk factors [1,2]. The most common variant of the disease is classic pyoderma gangrenosum [3]. According to Brooklyn et al. PG usually starts as small papules which break down to form deep ulcers with well-defined violet or blue borders. The surrounding skin is usually erythematous and indurated [3]. This disease was often observed in postoperative course [4], or following Azacitidine or G-CSF subcutaneous injections in the context of Myelodysplastic syndrome (MDS) [5].

To our knowledge, only very few cases of PG associated to Azacitidine injections were reported in the literature [6,7]. Here we report a case of a 54 year-old male with of Azacitidine induced PG.

The Case

A 54 year-old male treated in the department of hematology was diagnosed with myelodysplastic syndrome (MDS) in 2014. His initial bone marrow examination revealed less than 5% blasts with a normal karyotype. He received Erythropoietin allowing RBC-transfusion independence. In April 2017, the patient developed progressive high-risk MDS as defined by Revised International Prognostic Scoring System [8]. Labs notably included WBC of 3,000/mm³, hemoglobin of 9 g/dL, and 30,000 platelets/mm³.

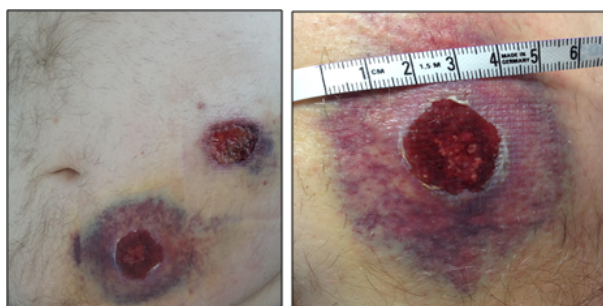


Figure 1: Two large ulcers with painful infiltration of dermis regarding left abdominal sites injections.

Bone marrow biopsy and cytology revealed multilineage dysplasia, and borderline myelodysplastic syndrome/myeloproliferative neoplasms. The patient was treated with Azacitidine. The patient did

not tolerate his first cycle of Azacitidine. A few days later, he developed multiple erythematous-bluish papules, associated with painful ulcerative plaques with violaceous borders and haemorrhagic center on his abdomen, proximal lower limb, and lower back.

Empirical antibiotics showed no clinical benefits, while lesions had spread around all subcutaneous injection sites of Azacitidine, with two predominant lesions of about 2-4 cm in diameter, as shown in (Figure 1).

Skin biopsies from the injection sites were performed and revealed congestive capillaries with plasmolympocytic and predominant mononuclear infiltrate as well as important necrotic and reactive changes (Figure 2).

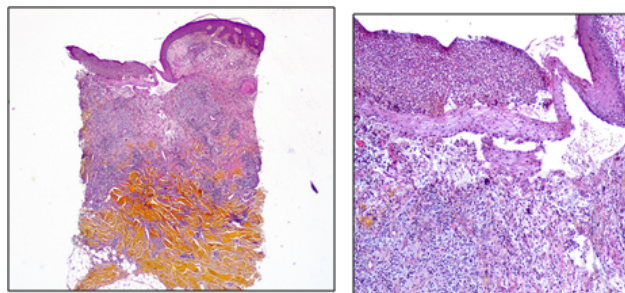


Figure 2: Microscopic examination of lesions: plasmolympocytic and predominant mononuclear infiltrate with important necrosis and reactive changes.

Different histological and microbiological studies were conducted and appeared to be negative. The clinical and histopathological presentations were consistent with pyoderma gangrenosum.

Regarding the difference between our case and other cases of Sweet Syndrome associated with Azacitidine utilization in MDS, we observed through dermatological, clinical, and histopathologic examinations the absence of genital and mucosal lesions [9].

Of note, the absence of purulent aspect of main lesions was explained, to our knowledge, by the patient's neutropenia (less than 500 neutrophils/mm³).

The patient was treated with prednisone for his PG 1 mg/kg/day, and the Azacitidine was suspended for more than 4 weeks with remarkable healing of PG lesions and progression of his MDS. A rechallenge experiment was initiated and interrupted rapidly after 2 injections of the rechallenge cycle, because of the immediate recurrence of dermatologic lesion.

Our patient was put under intensive observance program, without immediate re-challenge experience due to his critically necrotic lesions, these lesions responded rapidly to steroids.

Conclusion

Neutrophilic dermatoses, including Sweet syndrome and PG, are known dermatological sequelae of MDS. However, given the precise sites of necrotic skin lesions in accordance with injection sites, the clinical and pathological picture was most in favour of Azacitidine induced Pyoderma gangrenosum rather than to the underlying disease.

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