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CASE REPORT

Infliximab in treatment of idiopathic refractory childhood pyoderma gangrenosum (PG)

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Abstract: We report a case of refractory idiopathic childhood pyoderma gangrenosum in a young boy who had suffered from this disease since 3 years of age. He had unfavorable responses and intermittent relapses under different combinations of cytotoxic and steroid therapies. Although there was not much information available about infliximab use for biologic and childhood pyoderma gangrenosum, eventually we decided to use infliximab in this patient. Infliximab showed a dramatic response and resulted in full recovery during 2 years' follow-up.

Keywords: pyoderma gangrenosum, infliximab, childhood

Introduction

Pyoderma gangrenosum (PG) is an uncommon neutrophilic dermatosis in children (4% of cases). Despite its unknown pathogenesis, it may be associated with a variety of diseases, mainly ulcerative colitis, Crohn's disease, and hematologic malignancies.1 Isolated cases have been described in infants and childrens.1,2 It has chronic characteristic features, and can be accompanied by severe anemia, leading to difficult diagnosis.3,4 Most children with PG have been successfully treated with oral corticosteroids. We report a case in its ulcerative form and refractory to all known therapies, steroids, and cytotoxic drugs. Our study was complaint with the Helsinki Declaration and approved by the ethics committee of a faculty of medicine. Informed consent was obtained from the patient's parents.

Case report

The patient is now an 18-year-old. He was referred at 3 years of age with a complaint of a chronic wound in the medial region of the right thigh and systemic symptoms, including lethargy, weight loss, and intermittent fever since 2 months prior. The lesion was initially a small red ulcer, which rapidly progressed in size with yellowish nonpurulent bloody discharge. Initially, the patient was hospitalized and treated with topical and systemic antibiotics. Blood studies for systemic vasculitis and chronic granulomatous disease and all investigations to rule out any background conditions, such as inflammatory bowel disease, were normal. His skin lesion improved with local care and topical antibiotic for 2 months, and the patient was discharged without any specific diagnosis. However, after a few months he found new lesions on his right hand and abdomen. Biopsy of the lesions showed subacute necrotic dermatitis, and then prednisolone and azathioprine were started. Several months later, when his medications were tapering, a new lesion of 15×15 cm developed in the left thigh, and this time the patient was diagnosed with

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PG, based on the second biopsy. Reevaluation of the patient for systemic vasculitis and inflammatory bowel disease again were negative. With a final diagnosis of PG, he received cyclosporine and dapsone. However, despite treatment with these medications for consecutive years, he suffered a recurrent and relapsing course. We also tried different combination therapies, such as methotrexate, cyclophosphamide, and mycophenolate mofetil, for several courses, with unfavorable responses. Based on an unpublished report by Göknur Kalkan on the association of familial Mediterranean fever and PG in the Mediterranean area, we assessed MEFV gene mutations, which showed normal results. Because of refractory courses with different relapses and temporary recoveries, we decided to start infliximab as a biologic drug at 100 mg at weeks 0, 2 and 6 and then every 4 weeks. He showed dramatic clinical improvement in a few months, without any known side effects over the previous 2 years. There was not any recurrence, and all previous medications were discontinued. During 2 years; follow-up at the rheumatology clinic, he achieved full recovery.

Discussion

We report an idiopathic childhood refractory PG based on typical primitive sterile ulcerations and histological results that did not show any response to previously known medications. Despite advances in medical therapy, the outlook for PG is unpredictable. Delayed diagnosis or misdiagnosis of PG will certainly lead to exacerbation and progression of the disease. However, close and prolonged monitoring is necessary in these patients. The etiopathogenesis of PG is poorly known. Prognosis is usually good with corticosteroid therapy, and in steroid-resistant cases some authors have recommended immunosuppressive drugs.4,5 Systemic therapy is the mainstay of treatment for rapidly progressive PG. Corticosteroids, such as prednisolone, are initially used to prevent progression and restrain the inflammatory process. Combinations of steroid and cytotoxic drugs, such as azathioprine, cyclophosphamide, cyclosporine, or mycophenolate mofetil, are used in patients with steroid-resistant disease or as a steroid-sparing measure.5,6 Under different combinations, our patient had periods of relapse and refractory courses, and thus we decided to start infliximab based on the diagnosis of idiopathic childhood refractory PG. A monoclonal antibody against TNF, infliximab has been a particularly effective medication in treatment of PG associated with inflammatory bowel disease.7 There are recent data about new approaches and treatment of PG with tacrolimus,8 different biologics and immunoglobulins,9 and a combination of two drugs (tofacitinib and infliximab);10 however, all these studies were in adult patients, and experience in childhood PG is limited. In children with idiopathic PG, there has been very limited experience with biologic therapy, and our study is by far one of the most effective trials of a biologic in childhood refractory PG. Our results showed that infliximab is a promising treatment in refractory idiopathic PG.

Conclusion

Infliximab seems to be an effective biologic treatment in idiopathic refractory childhood PG.

Consent statement

The patient signed a consent form for publishing of the case details with the exception of photography and imaging.

Institutional approval

Institutional approval to publish the case details was not required.

Author contributions

All authors contributed toward data analysis, drafting and critically revising the paper, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

Disclosure

The authors report no conflicts of interest in this work.

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