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Resolution of a Case of Pediatric Pemphigus Vulgaris Treated with Rituximab

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SUMMARY Pemphigus vulgaris (PV) is an infrequent autoimmune bullous disease involving the skin and mucous membranes, which is rare in pediatrics. Although the main therapy for childhood PV are steroids, immunosuppressive drugs are often needed to control the disease. We report the case of an 11-year-old Caucasian boy who presented with a 10 months history of PV unresponsive to steroids and to intravenous immunoglobulin. The therapeutic use of rituximab allowed a long-lasting and complete remission. According to a good safe profile and to our case report, as well as the literature, rituximab may be considered an safe and efficacious treatment for PV.

KEYWORDS: pemphigus vulgaris; childhood; rituximab; therapy; intravenous immunoglobulin

INTRODUCTION

Pemphigus vulgaris (PV) is an autoimmune bullous disease involving the skin and mucous membranes. It is characterized by the presence of autoantibodies directed against some components of the desmosomes, specifically desmoglein 1 and 3, leading to a loss of cell-to-cell adhesion. The mean age of onset is between the age of 40 and 60 years, while it is a rare disease in children, with few cases reported in literature.

Rituximab, a chimeric anti-CD20 antibody, can be a valid alternative to conventional systemic therapy usually performed to treat this rare disease. Currently, only 11 cases of childhood PV (CPV) treated with rituximab are reported in literature (1-7). We present a case of a refractory CPV successfully treated with rituximab.

CASE REPORT

An 11-year-old Caucasian boy presented with a 10 month history of vesicular and bullous erythematous skin lesions, which ruptured to form progressive erosions with crusting (Fig. 1). The oral mucosa also showed the presence of several painful erosions.

His past medical history was negative for infections, autoimmune diseases, and malignancies. Routine laboratory investigations were all negative and the skin cultures did not show signs of bacterial, viral, or fungal infections.

Before arriving in our care, the patient received a diagnosis of PV in another institute and was treated with prednisone (1.5 mg/kg per day). However, the patient reported only scant clinical improvement but developed steroidal side effects such as weight gain and the characteristic *facies lunaris* (Fig.1).

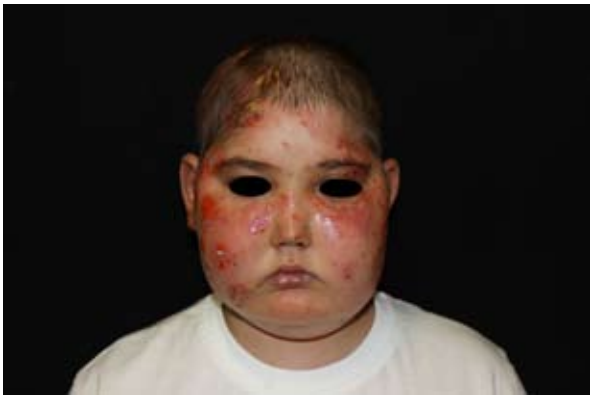

Figure 1. Vesicular and bullous erythematous skin lesions, which ruptured to form progressive erosions with crusting.

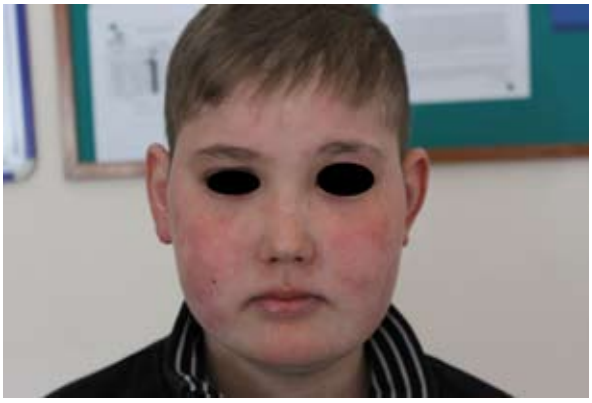

Figure 2. Improvement of the cutaneous lesions after treatment with rituximab (375 mg/m^2).

Based on the diagnosis and the unresponsiveness to steroid therapy, we started treatment with intravenous immunoglobulin (IVIg) at 400mg/kg per day during three consecutive days (with intervals of 45 days), for a total of 5 cycles. Initially, we observed a clinical improvement, but the patient experienced a recrudescence of the disease about 1 month later. Consequently, we decided to treat the patient with rituximab. The treatment started with 2 courses of rituximab (375mg/m^2), 18 days apart. After the first line of rituximab, new lesions stopped appearing and 90% of the cutaneous lesions healed within 4 weeks (Fig. 2). Currently, the patient attends strict follow-up appointments, and after 10 months he does not presented further cutaneous lesions and has normal serum level of autoantibodies.

DISCUSSION

CPV accounts for 1.4-2.9% of all PV cases (1), affecting both sexes equally, and the mean age of onset is 12 years (2). CPV seems to have a better prognosis than PV, but its clinical course is extremely variable (1). Nevertheless, before the availability of corticosteroids, most patients died within 5 years of the disease onset (1).

CPV often arises with oral involvement that includes multiple painful vesicles and erosions. This pattern is frequently the only clinical feature of CPV; it can thus be misdiagnosed as bullous impetigo, staphylococcal ecthyma, or herpetic stomatitis. The appearance of flaccid, easily ruptured blisters and positive Nikolsky sign can suggest the correct diagnosis.

The main therapy for CPV is based on oral corticosteroids, but potential long term adverse effects limit their use. In literature, we found a lot of adjuvant steroids-sparing treatment, such as oral gold (3), mycophenolate mofetil (2), IVIg (4), methotrexate, cyclophosphamide, azathioprine, and dapsone (5). Additionally, a case of CPV unresponsive to azathioprine, mycophenolate mofetil, plasmapheresis, and IVIG with systemic prednisone, successfully treated with rituximab, has also been reported (6).

From 2005 to date, rituximab was used in 10 CPV cases (1,7,8), with a good side effect profile (1). Although there is no clear evidence about which approach to rituximab administration is the safest or the most effective in children (6), we decided to use rituximab based on our positive experience in adults (9) and on the data present in the literature.

CONCLUSION

Based on the remarkably positive experience in this case and on previous reports, we believe that rituximab may be considered a safe and efficacious treatment for CPV.

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