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CASE STUDY

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Bullous pemphigoid in a young patient with coexisting long-standing psoriasis, successfully treated with methotrexate

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ABSTRACT

Introduction: Bullous pemphigoid is an autoimmune bullous disease, affecting elderly people, most often in the 8th decade of life. The article aims to present a rare case of bullous pemphigoid manifested at an atypically young age, occurred with long-standing psoriasis and was successfully treated with methotrexate.

Case report: A 40-year-old male presented to the department with the presence of bullous lesions on the limbs and trunk, together with psoriatic papules and plaques in the lumbar region and lower limbs, stating the history of psoriasis. Based on clinical, direct immunofluorescence and serological findings, bullous pemphigoid was diagnosed. For the treatment methotrexate and topical clobetasol propionate cream were used with a good clinical response after 4 weeks.

Discussion: The coexistence of psoriasis and bullous pemphigoid is not common and poses a therapeutic challenge. Methotrexate can be a good treatment option for these patients. Future research is needed to explain the pathogenic mechanism of bullous pemphigoid and psoriasis coexistence.

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Key words: bullous pemphigoid, psoriasis, methotrexate

CASE REPORT

A 40-year-old Caucasian male was admitted to the department for diagnostics of dermatological bullous lesions, which had appeared one week before, primarily on the limbs and afterwards spread to other parts of the body. The patient denied prior infections and usage of any drugs. He has been treated by a dermatologist with oral lymecycline 300 mg and topical steroids for a week but without any improvement. The patient had also a history of psoriasis (PSO) from 35 years of age, under only topical treatment.

Cutaneous examination revealed many tense blisters filled with serous fluid, as well as erosions and crusts located mainly on the skin of limbs and trunk (Fig. 1, 2). Mucous membranes were not affected. In addition, psoriatic lesions such as papules and plaques were present mostly in the lumbar region and lower limbs and lumbar region (Fig. 2, 3).

Direct immunofluorescence (DIF) revealed linear deposits of IgG and C3 at the basement membrane zone (BMZ). Enzyme-linked immunosorbent assay test (*Euroimmun*, Lübeck, Germany) detected positive serum autoantibodies against BP180 with an antibody titre of 11.80 U/mL and BP230 with a value of 8.00 U/mL. Bullous pemphigoid (BP) was diagnosed based on clinical presentation, DIF and serological findings. The patient was assessed according to the BP Disease Area Index score as severe (70 points).Treatment was started with methotrexate (MTX) 15 mg weekly, associated with folic acid 15 mg weekly. Clobetasol propionate cream was used as a topical treatment for skin lesions.

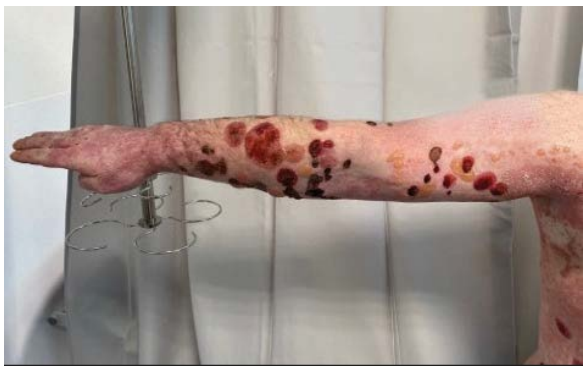

Figure 1. Tense blisters with serous fluid, erosions and crusts on the skin of right upper limb

After 4 weeks of treatment, the patient showed pronounced improvement, with remission of the bullous as well as psoriatic lesions and erosions on the skin of limbs and torso (Fig. 4, 5).

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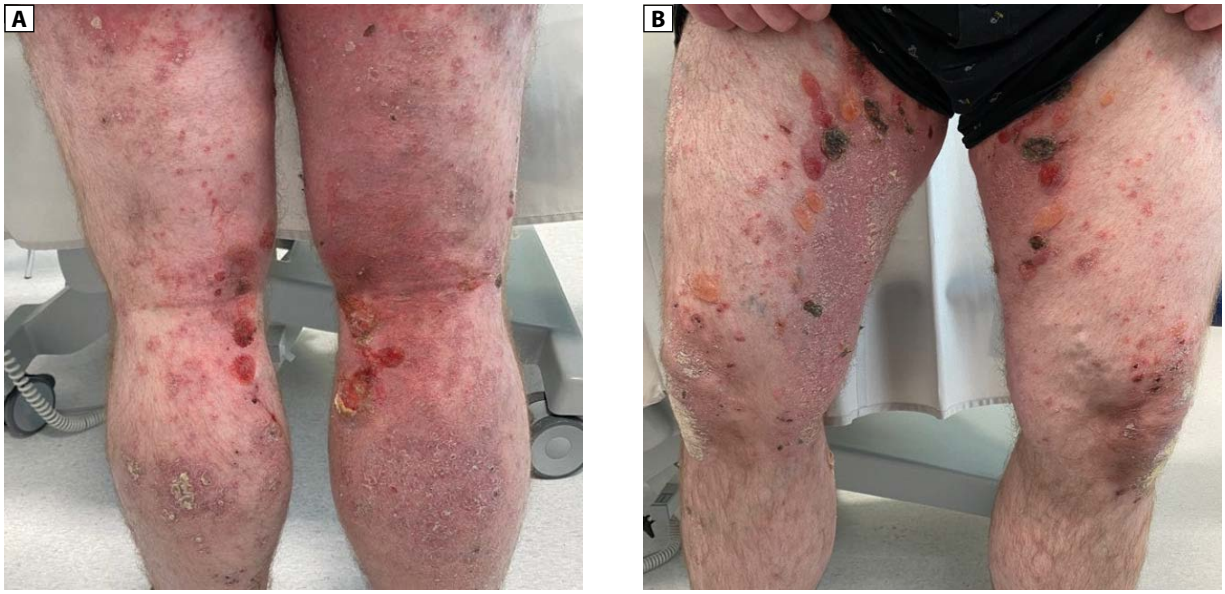

Figure 2. A, B. Tense blisters with serous fluid, erosions and crusts coexisting with psoriatic lesions as papules and plaques on the skin of lower limbs

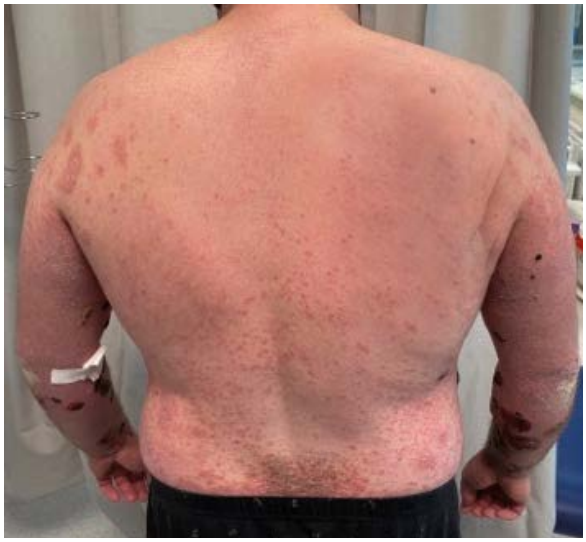

Figure 3. Erosions and crusts coexisting with psoriatic lesions as papules and plaques on the skin of the patient's back

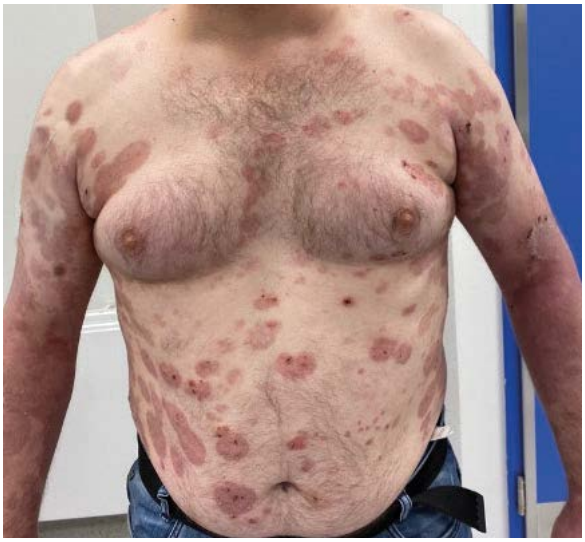

Figure 4. Lesions on the skin of torso after 4 weeks of treatment by methotrexate and clobetasol cream

DISCUSSION

Bullous pemphigoid (BP) belongs to the group of autoimmune bullous diseases and is the most frequent among them with an estimated incidence of 2.5 to 42.8 cases per million inhabitants a year in different populations worldwide, exhibiting increasing incidence [1, 2]. The disease usually affects elderly people, in the 8th decade of life, with a similar proportion of men and women [3]. It is induced by autoantibodies directed against desmosomal proteins: BP180 and BP230. BP may be related to comorbidities such as PSO, which is still rare and not well-researched coexistence [4]. The case-control study estimated a 1.5-fold increase in the risk of subsequent BP in patients with a history of PSO [5]. This study included 110 patients with both diseases, BP followed PSO in 67.3% of cases and another report PSO prefaced diagnosis of BP in all patients included. The latency between BP and PSO is differential and unpredictable with a range from 0.1 years to 45.0 years. Patients with both diseases were significantly younger at the moment of diagnosis of BP compared to those with isolated BP (mean value 68.5 *vs.* 78.0) and they were more often men (53.5%). In addition, such factors as hypertension and smoking incre-

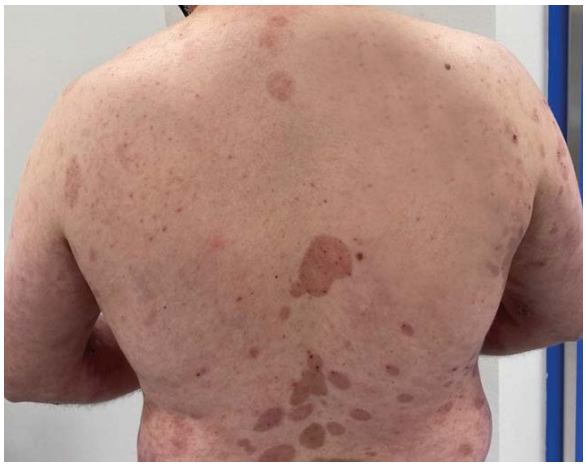

Figure 5. Lesions on the skin of the back after 4 weeks of treatment by methotrexate and clobetasol cream

ased the prevalence rate of both entities together relative to isolated BP, as well as prolonged treatment with systemic or topical corticosteroids [5, 6]. Furthermore, BP lesions can be triggered by several factors, such as drugs, vaccinations, thermal or electrical burns, surgical procedures, trauma, radiotherapy, chemical preparations, transplants, infections and also Psoralen Ultra-Violet A (PUVA), which is used in the management of PSO [4, 7]. The study patient had a history of smoking and topical corticosteroid treatment, having a time interval of 5 years from the expansion of PSO to the presentation of BP, consequently matching the findings of the research. In contrast, the man was 40 years old at the moment of diagnosis of BP, which is less than the mean value in the studies and there were no records of phototherapy in his medical files.

The pathomechanism responsible for these comorbidities is still unclear. The common agent in both conditions is the BMZ. In PSO, disarrangement in BMZ can lead to changed antigenicity of BMZ and keratinocytes, as well as expansion of anti-BMZ autoantibodies [5]. Hammers and Stanley pointed out neutrophil chemoattractants produced in both diseases by keratinocytes and attracting neutrophils to the BMZ, where they secrete metalloproteases, whose activity may result in matrix proteins degradation and exposure of matrix autoantigens forming the BMZ [8]. Few reports depicted cytokines, especially IL-1 and IL-17, as well as T-cell polarization as one of the common denominators of the association of BP with PSO. Levels of these interleukins correlated with the intensity of BP symptoms, furthermore IL-17 has an indispensable role in the pathogenesis of PSO. There has been found no common susceptibility between human leukocyte antigen (HLA) between these entities [5].

Due to the doubtful pathomechanism of association between BP and PSO, treatment of this coexistence is a challenge. MTX was administered as it is one of the first choices of plaque-type PSO treatment, although this drug is an alternative, not the first-line treatment in BP, some guidelines suggest MTX administration when corticosteroids alone fail to control the disease [9]. Consequently, it was decided to administer MTX in combination with a topical corticosteroid, which, on the other hand, can be used both in PSO as well as in BP [9, 10, 11]. Chosen management quickly improved symptoms of bullous lesions and PSO symptoms.

Methotrexate (MTX) can be a good treatment option for the coexistence of BP and PSO. Future research is needed to explain the pathogenic mechanisms of BP and PSO coexistence.

Conflict of interest

The authors report no competing interests.

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