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Efficacy of Ustekinumab in Palmoplantar Psoriasis

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Key Words

Palmoplantar psoriasis · Ustekinumab · Stelara® · Interleukin-12 to -23

Palmoplantar psoriasis (PP) or psoriasis of the palms and soles is characterized by erythema, infiltration, fissuring and scaling, sometimes with associated recurrent crops of sterile pustules, sometimes with hyperkeratosis. This chronic inflammatory skin condition can be disabling in causing painful fissuring and scaling and may affect daily activities or even cause a real handicap [1, 2]. There are very few therapeutic studies specifically addressing patients with PP, and it most frequently constitutes an exclusion criterion in psoriasis clinical trials. We report 2 patients with severe PP who failed to respond to conventional therapies and tumor necrosis factor blockers and were successfully treated with ustekinumab.

Case 1

A 42-year-old nonsmoking man, a craftsman, was suffering from isolated PP since the age of 18 years. He had a history of concomitant axial and/or peripheral psoriatic arthritis. His previous treatments included topical therapies (topical corticosteroids, vitamin D derivatives), acitretin, phototherapy, methotrexate, etanercept, infliximab and adalimumab without any significant improvement. In 2007 he lost his job due to the severity of PP. In June 2009 he presented with multiple painful fissures on his hands (fig. 1a) and feet (fig. 1b), which severely impeded walking. The localized PP area and severity index (PPASI) was 54. A monotherapy with 45 mg of subcutaneous ustekinumab (weight: 95 kg; BMI: 24) was introduced. After 7 months and 3 injections of ustekinumab, a dramatic improvement in PP was seen (fig. 2). The localized PPASI improved by 85%. A slight improvement in psoriatic arthritis observed. Ustekinumab therapy was continued, combined with a low dose of methotrexate.

Case 2

The second patient was a 29-year-old woman. Her comorbidities included obesity (BMI: 34) and smoking. She had an 8-year history of severe PP. The localized PPASI was 40. Her previous treatments included ciclosporin, adalimumab, etanercept and methotrexate, which were not effective or not tolerated. In April 2010 a treatment with ustekinumab at a dose of 90 mg (100 kg) was introduced (fig. 3a, 4a). One month later and after a single

Fig. 1. Clinical pictures of the palms of the first patient before and during therapy with ustekinumab. **a** Before treatment. **b** 28 weeks after therapy initiation.

injection of ustekinumab, the palms cleared (fig. 3b), whereas the soles were still affected by hyperkeratotic skin lesions and inflammation (fig. 4b). The localized PPASI was 24. At the same time, concomitant plaque psoriasis on other parts of the body improved significantly. Four months after the first injection of ustekinumab, a good clinical improvement in PP was observed (fig. 3c, 4c) and the localized PPASI was 14. Ustekinumab therapy was continued.

Discussion

In these 2 cases ustekinumab was used to treat PP at doses according to label recommendations for plaque-type psoriasis. Our patients were suffering from severe forms of PP recalcitrant to other systemic therapies including tumor necrosis factor blockers. Ustekinumab therapy was well tolerated and no side effects were

reported. In both patients, treatment with ustekinumab was satisfactory with a good improvement in PP and plaque psoriasis in the second patient. The earlier PP improvement on the hands than on the feet in the second patient might be explained by the presence of a systematic isomorphic phenomenon – subclinical traumas and chronic pressure – affecting the soles of the feet. The tolerance was also good, and no side effects were reported by both patients.

The treatment of PP in general is very difficult. As patients with PP are excluded from most clinical trials of psoriasis, there is no evidence-based consensus regarding a therapeutic strategy for PP. There is no standard therapeutic approach to the management of PP. Many different treatments used in plaque psoriasis have been used for PP, but none are generally accepted as being reliably effective.

Fig. 2. Lesions of the soles of the first patient before and during treatment with ustekinumab. **a** Before therapy. **b** 28 weeks after treatment initiation.

Fig. 3. Clinical pictures of the palms of the second patient before and during therapy with ustekinumab. **a** Before therapy. **b** 4 weeks after therapy initiation. **c** 16 weeks after therapy initiation.

Fig. 4. Lesions of the soles of the second patient before and during treatment with ustekinumab. **a** Before therapy. **b** 4 weeks after therapy initiation. **c** 16 weeks after therapy initiation.

Ustekinumab (Stelara®) is the first drug of a new class of bi-therapy, a fully human anti-interleukin-12/-23 monoclonal antibody approved for the treatment of moderate-to-severe plaque psoriasis in the USA, Europe and elsewhere. 67–76% of patients with moderate-to-severe psoriasis show a reduction in PASI by at least 75% after only 2 injections of ustekinumab [3, 4]. As with other biological agents, ustekinumab was only developed in adult plaque psoriasis, and there are limited data on its efficacy in other forms of psoriasis. Recently, Gerdes et al. [5] reported 4 cases with palmoplantar pustulosis with improvement in 2 of the 4.

Conclusion

Ustekinumab can be an effective therapeutic alternative for patients suffering from PP. Additional studies in this subpopulation, particularly those focusing on the ability to return to work, are desirable.

Disclosure Statement

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