

Successful treatment of Acrodermatitis continua of Hallopeau associated with psoriatic arthritis with adalimumab

Salima Lefkir¹, Samy Slimani², Nadjia Brahimi¹, Aicha Ladjouze-Rezig¹

Abstract

Acrodermatitis continua of Hallopeau (ACH) is a rare form of pustular psoriasis, mainly affecting distal phalanges of hands and feet. Many therapeutic options exist; however, it tends to be resistant to treatment. We report a 26-year-old man presented with a very severe psoriatic arthritis associated with ACH. Although this patient was resistant to a first line treatment (glucocorticoids and methotrexate), a rapid and dramatic improvement was observed after adalimumab was introduced. The effectiveness and tolerance of the treatment were maintained during the 12-month period of follow-up. This is the first report of the efficacy of adalimumab on ACH in a patient presented with psoriatic arthropathy.

Keywords: Acrodermatitis continua of Hallopeau, psoriatic arthritis, adalimumab

Introduction

Acrodermatitis continua of Hallopeau (ACH) is a rare form of pustular psoriasis, mainly affecting distal phalanges of hands and feet. It is characterized by a relapse of pustular eruptions, causing dystrophy of the nails. Its evolution is chronic with frequent relapses and the possibility of proximal extension (1). Many therapeutic options exist; however, it tends to be resistant to treatment. The outcome can be extremely serious and the disability may be high, particularly when associated with psoriatic arthritis.

Case Presentation

We report a 26-year-old man, with no particular history, who was admitted to our department for a very serious inflammatory symmetrical polyarthritis that was developing since 4 months. It was associated with diffuse cutaneous lesions and a deterioration of the global status, thereby making him bedridden. He was followed as an outpatient for a mild axial spondyloarthritis since 5 years. His condition improved with moderate doses of non-steroidal anti-inflammatory drugs. Physical examination revealed a global stiffness of the spine and pain when palpating the sacro-iliac, sterno-clavicular, and chondro-costal joints. Hips, shoulders, and distal joints (wrists, metacarpophalangeal, interphalangeal, and metatarsophalangeal joints) were characterized by pain and a limited range of motion. Skin examination revealed erythematous-squamous lesions over the scalp, the face, the back, and the knees and was associated with typical Hallopeau pustules on fingers and toes (Figure 1, 2).

The inflammation parameters were elevated, with an erythrocyte sedimentation rate of 130 mm/1st h [0-15 mm] and a C-Reactive Protein concentration of 344 mg/L [0-6 mg/L]. The hemoglobin level was 9 g/dL. Rheumatoid factor and anti-cyclic citrullinated peptide were negative. The TB-quantiferon test was positive, with no signs of active tuberculosis. X-rays showed ankylosis of the spine and the sacro-iliac joints, narrowing of the metacarpophalangeal and interphalangeal joints, and a radiographic involvement of sterno-clavicular and chondro-sternal joints. A skin biopsy of the forearm confirmed the diagnosis of pustular psoriasis. The diagnosis of psoriatic arthritis associated with ACH was made.

Glucocorticoids were administered (a 3-day infusion of 120 mg/day of methylprednisolone) along with oral methotrexate (20 mg/week). With the absence of clinical response within 3 months, adalimumab was administered (40 mg/2 weeks), while continuing methotrexate treatment. Chemoprophylaxis associated with isoniazid and rifampicin was administered 3 weeks before adalimumab and continued for a total duration of 3 months.



1 Department of Medicine, University of Algiers 1, Algiers, Algeria

2 Department of Medicine, Hadj Lakhdar University, Batna, Algeria

Address for Correspondence:
Samy Slimani, Department of Medicine, Hadj Lakhdar University, Batna, Algeria

E-mail: slimani@dr.com

Submitted: 02.08.2014

Accepted: 01.10.2014

Available Online Date: 31.03.2015

Copyright 2015 © Medical Research and Education Association

Table 1. Evolution of clinical indices and lab parameters for the patient just before and after adalimumab treatment was started

	BASDAI	BASFI	DAS28	HAQ	ESR 1 st (mm)	CRP (mg/L)
At initiation	7.5	10	8.04	3	130	344
3 months	3.1	7.1	4.53	1.75	32	6
9 months	1.2	6	0.49	1	2	<6
12 months	1.4	6	0.5	1	8	<6

BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; BASFI: Bath Ankylosing Spondylitis Functional Index; DAS28: Disease Activity Score; HAQ: Health Assessment Questionnaire; ESR: Erythrocyte Sedimentation Rate; CRP: C-Reactive Protein

**Figure 1.** Typical Hallopeau pustules on the face**Figure 2.** Characteristic Hallopeau lesions on fingers

Two weeks after adalimumab initiation, a rapid and dramatic improvement was noted, either on cutaneous lesions (Figure 3, 4) or on joint pain and joint mobility. Laboratory studies normalized within few weeks. No side effect was noted, with a follow-up period of 12 months. Table 1 shows the evolution of clinical indices and laboratory parameters after adalimumab treatment was started.

Discussion

ACH is a suppurative process affecting fingers and feet and may be complicated with distal osteolysis if left untreated. Diagnosis of ACH

**Figure 3.** Rapid improvement of cutaneous lesions on the face after the initiation of adalimumab treatment**Figure 4.** Improvement of cutaneous lesions on the fingers after the initiation of adalimumab treatment

is based on clinical features (nature and distribution of lesions) associated with non-specific pathological features evoking psoriasis. It is considered as a rare and complicated form of pustular psoriasis that does not respond to standard antipsoriatic medications (1, 2). Many drugs have been used for the treatment of ACH, including vitamin A derivatives, vitamin D derivatives, phototherapy, and immunosuppressants (3, 4). TNF α inhibitors have been successfully administered in patients presented with plaque psoriasis associated with ACH. In our patient, adalimumab, a TNF inhibitor, was administered for the treatment of a refractory

psoriatic arthritis. Its efficacy in plaque psoriasis has been well established (5); however, there is no evidence of its efficacy in ACH apart from few case reports (<20), of which more than half of them use adalimumab (6-8).

In conclusion, our case is the first to describe the efficacy of adalimumab in a patient presented with psoriatic arthritis associated with ACH. Optimal treatment duration is still an unsolved issue.

Ethics Committee Approval: N/A

Informed Consent: Written informed consent was obtained from patients who participated in this case.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - S.L.; Supervision - A.L.R., N.B.; Data Collection and/or Processing - S.L.; Literature Review - S.L., S.S.; Writer - S.L., S.S.; Critical Review - A.L.R.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

References

1. Gluckman SJ, Heyman W. Diagnosis: acrodermatitis continua of Hallopeau. *Clin Infect Dis* 2001; 32: 431-505.
2. Kiszewski AE, De Villa D, Scheibel I, Ricachnevsky N. An infant with acrodermatitis continua of Hallopeau: successful treatment with thalidomide and UVB therapy. *Pediatr Dermatol* 2009; 26: 105-6. [\[CrossRef\]](#)
3. Brill TJ, Elshorst-Schmidt T, Valesky EM, Kaufmann R, Thaçi D. Successful treatment of acrodermatitis continua of Hallopeau with sequential combination of calcipotriol and tacrolimus ointments. *Dermatology* 2005; 211: 351-5. [\[CrossRef\]](#)
4. van Dooren-Greebe RJ, van de Kerkhof PC, Chang A, Happle R. Acitretin monotherapy in acrodermatitis continua Hallopeau. *Acta Derm Venereol* 1989; 69: 344-6.
5. Wong VK, Leibold MG. Treatment of psoriatic arthritis with etanercept, a tumour necrosis factor antagonist. *Expert Opin Biol Ther* 2005; 5: 1505-13. [\[CrossRef\]](#)
6. Sopkovich JA, Anetakis Poulos G, Wong HK. Acrodermatitis continua of hallopeau successfully treated with adalimumab. *J Clin Aesthet Dermatol* 2012; 5: 60-2.
7. Di Costanzo L, Napolitano M, Patruno C, Cantelli M, Balato N. Acrodermatitis continua of Hallopeau (ACH): two cases successfully treated with adalimumab. *J Dermatolog Treat* 2014; 25: 489-94. [\[CrossRef\]](#)
8. Dini V, Barbanera S, Romanelli M. Efficacy of adalimumab for the treatment of refractory paediatric acrodermatitis continua of hallopeau. *Acta Derm Venereol* 2013; 93: 588-9. [\[CrossRef\]](#)