

# Using Oral Tetracycline and Topical Betamethasone Valerate to Treat Acrodermatitis Continua of Hallopeau

Jaime Piquero-Casals, MD; Ana Paula Fonseca de Mello, MD; Cassio Dal Coletto, MD; Maria Denise Fonseca Takahashi, MD; Marcello Menta Simonsen Nico, MD

*Acrodermatitis continua of Hallopeau (ACH) is a rare type of localized pustular psoriasis. We report the case of a 65-year-old alcoholic woman who had severe inflammatory ACH for 10 years. Initial therapy with sulfasalazine was unsuccessful. The patient was then treated with oral tetracycline and topical betamethasone valerate with occlusive dressing. Her condition improved dramatically after one week.*

**A**crodermatitis continua of Hallopeau (ACH) is also known as *acrodermatitis perstans* and *dermatitis repens*.<sup>1</sup> This chronic inflammatory disease of the hands and feet was first described by Hallopeau in 1890.<sup>2</sup> ACH, which occurs more frequently in women, is characterized by a suppurative process in the fingers and commonly occurs after trauma. Lesions tend to be asymmetric, destructive, and painful. The pustular reaction of the nail bed often leads to dystrophy, onycholysis, and eventual loss of the nail plate.

## Case Report

A 65-year-old woman was admitted to the Dermatology Service at Hospital das Clínicas, São Paulo, Brazil. She presented with an erythematous pustular plaque eruption with edema on the first and second fingertips of the left hand and on the third fingertip of the right hand. Also apparent on these fingers were paronychia and subungual involvement and nail dystrophy and onycholysis (Figure 1). Family history was negative for psoriasis. There was no evidence of arthritis, and lesions of psoriasis vulgaris were absent. Personal history included alcohol addiction

and, 2 years earlier, clinical diagnosis of ACH with unsuccessful sulfasalazine therapy. A 5-mm punch biopsy was performed, and histopathology results were consistent with pustular psoriasis. Bacterial growths were absent on culture.

The patient was in good physical health but had received a diagnosis of depression and anxiety secondary to abstinence syndrome. Admission laboratory studies were within reference ranges. Radiographs of the patient's hands showed discrete bone rarefaction and flexion contractures without deformity of the interphalangeal joints (Figure 2).

The patient was treated with oral tetracycline 500 mg 4 times/d and topical betamethasone valerate cream with occlusive dressing. Her condition improved dramatically after one week of treatment; the lesions cleared, and resolution was complete (Figure 3). The patient returned for follow-up 2 months later and has had only minor recurrences that improved with the use of corticosteroids and occlusive dressing.

## Comment

Treatment of ACH is notoriously difficult. The many therapies that have been used include aromatic retinoids and immunosuppressive agents. Etretinate<sup>3</sup> and acitretin<sup>4,5</sup> have beneficial effects on the disease, and methotrexate,<sup>6</sup> cyclosporin A,<sup>7,8</sup> and sulfapyridine<sup>9</sup> are effective treatments. Clinical trials have been conducted on treatments using topical psoralen or PUVA (oral psoralen with ultraviolet A light),<sup>10</sup> topical calcipotriene,<sup>11</sup> intramuscular triamcinolone acetonide,<sup>12</sup> topical fluorouracil,<sup>13</sup> and hydroxyurea.<sup>14</sup>

Several patient factors should be considered when deciding which treatment to use, including disease severity, age, general physical well-being, and desires.<sup>15</sup> Because our patient was alcoholic, we used topical measures that would minimize side effects. Combining topical steroids (and occlusive

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From the Department of Dermatology, Hospital das Clínicas, University of São Paulo, Brazil.

Reprints: Jaime Piquero-Casals, MD, Hospital das Clínicas, Dermatologia, Av. Eneas de Carvalho Aquiar, No. 255, andar ICHC, CEP 05403-900, São Paulo SP, Brazil (e-mail: piquero@dermatologico.com.br).



**Figure 1.** Erythematous pustular plaque eruption with edema on hands.



**Figure 2.** Discrete bone rarefaction and flexion contractures without deformity of the interphalangeal joints.

dressings)<sup>16</sup> with oral tetracycline (for its anti-inflammatory effect) is more effective than use of an immunosuppressive agent or a systemic medication alone. Topical corticosteroids have anti-inflammatory, immunosuppressive, and antimetabolic effects. They inhibit cytokine gene transcription, T-cell proliferation, and T-cell-dependent immunity. The anti-inflammatory effects of corticosteroids include inhibition of dermal edema and movement of inflammatory cells within the skin.<sup>17</sup> Tetracycline also is effective in treating ACH, which Thomsen and Osterbye<sup>18</sup> demonstrated in a controlled study of 40 patients with pustulosis palmaris et plantaris. Oral and topical administration of tetracycline

suppressed neutrophil chemotaxis in humans.<sup>19</sup> In a controlled experimental study, Plewig and Schöpf<sup>20</sup> showed that tetracycline decreased the inflammation and pustule formation caused by topical application of 40% potassium iodide by as much as 80%. However, this regimen works so quickly that some patients skip or stop therapy, and the conditions recur. Repeating treatment may be necessary, as was the case with our patient.

In summary, we have presented the case of a patient who had ACH that was refractory to sulfasalazine therapy but that improved with use of oral tetracycline and topical betamethasone valerate with occlusive dressing. We believe that this



**Figure 3.** Lesions cleared, and resolution was complete after one week of treatment.

treatment should be tried in a larger group of patients, as it is not expensive and its toxicity is very low. More toxic or more complex regimens may be used if this simple treatment fails.

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