Epidemiological Insight into Acrodermatitis Continua of Hallopeau for Early Diagnosis and Prevention of Disease Progression

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INTRODUCTION

- Acrodermatitis continua of Hallopeau (ACH) is a rare localized form of pustular psoriasis that presents with tender sterile pustules on the tip of digits [1].
- Pustules on fingers, toes, and nail beds with erythematous atrophic skin resulting in onychodystrophy and ultimately anonychia [2].
- ACH is chronic and can result in irreversible nail changes due to osteolysis of distal phalanges [2, 3].
- Epidemiological information regarding ACH is minimal in the literature, however, vital for early recognition and treatment.
- Cases reported in individuals of North European, South Asian, North African, Hispanic ethnicities.
- No published cases of ACH in individuals of African American descent.

CASE PRESENTATION

- 58-year-old African American female with a PMHx of nail psoriasis presented with painful swollen fingers.
- Pustules, yellow crusting in her left first and third toe nails, with evidence of anonychia concerning for ACH.
- Started her on 12.5 mg of methotrexate weekly (later discontinued due to intolerable GI symptoms).
- Alternatively, received a total of three secukinumab injections with resolution of nailbed pustules and swelling of the digits.
- She self discontinued treatments after having an episode of telogen effluvium which she related to the secukinumab.
- Currently being followed by rheumatology with plans to re-initiate TNF-alpha inhibitor.

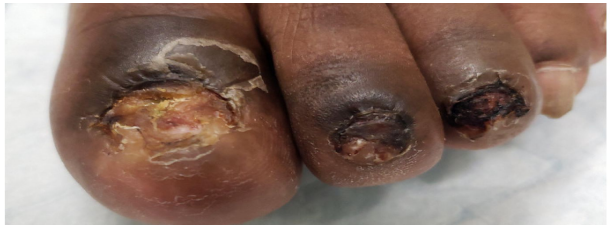

Figure 1 – Patient's left foot, note first and third toes with pustules and crusting, representing end-stage anonychia of Acrodermatitis continua of Hallopeau (prior to secukinumab treatment)

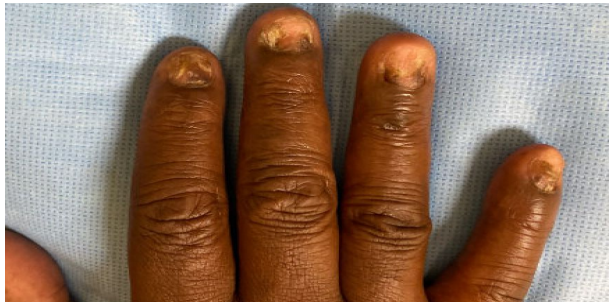

Figure 2 – Fingers that were swollen at the DIP and finger pads with subungual hyperkeratosis and nail dystrophy, demonstrating classic signs of severe psoriatic arthritis

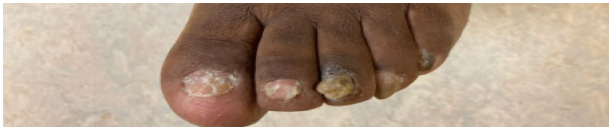

Figure 3 – Patient's left foot, after secukinumab treatment showing significant improvement

DISCUSSION

- Limited information regarding the epidemiology of acrodermatitis continua of Hallopeau (ACH) in the current literature can interfere with the early diagnosis and treatment.
- Chronic and overtime result in irreversible changes, therapy in the early stages is essential to prevent progression [2, 3].
- A retrospective case series of 39 patients looking at different treatments' effectiveness concluded that secukinumab had the highest response rate with remission or complete resolution 42.9% [2].
- Our patient is an African American female whose condition had progressed to onycholysis with debilitating pain.
- Her presentation is valuable in that it helps to add epidemiology information into literature and provide images of disease presentation in skin of color.

CONCLUSION

- Due to the rarity of ACH, epidemiological information regarding the condition is sparse in literature, and this case will aid in early diagnosis and treatment.
- Given the differences in manifestations of dermatological conditions in individuals with skin of color, we believe this case will help provide further insight into recognition of ACH and contribute to ongoing efforts to reduce health care disparities in dermatological care in skin of color.
- We hope that this case will familiarize clinicians with the disease presentation to recognize this rare form of pustular psoriasis to prevent irreversible sequelae of ACH.

References:
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2. Kromer C, Loewe E, Schaarschmidt ML, Pinter A, Gerdes S, Celis D, Poortinga S, Wilsmann-Theis D, Mössner R: **Treatment of acrodermatitis continua of Hallopeau: A case series of 39 patients**. *J Dermatol* 2020, **47**(9):989-997.
3. Lefkir S, Slimani S, Brahimi N, Ladjouze-Rezig A: **Successful treatment of Acrodermatitis continua of Hallopeau associated with psoriatic arthritis with adalimumab**. *Eur J Rheumatol* 2015, **2**(2):78-79.