

NETHERTON SYNDROME AND DUPILUMAB BEYOND THE INFLAMMATORY SKIN

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Clinical Case

A 25 year-old female with a long-standing Netherton syndrome (NS) presented at birth with a collodion-like appearance. Subsequently she developed a persistent ichthyosis associated with atopic skin manifestations (eczematous lesions, excoriation).

Previous therapies included topical treatments, acitretin, apremilast (PDE4 inhibitor), ixekizumab (anti-IL-17), ciclosporin and UVB.

Dupilumab 300mg every two weeks was instated as per presence of atopic features.



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DUPILUMAB
300mg/2 weeks
Five months



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What we already know

NS is an autosomal recessive genodermatosis characterized by dysfunction of the skin barrier due to mutations in the SPINK5 gene. This syndrome presents a clinical triad, including linear circumflex ichthyosis (LCI), trichorrhaxis invaginata (bamboo hair) and an atopic predisposition.

The dysfunction of the skin barrier through the defective skin and nonspecific inflammation creates a pro-Th2 immune environment, making these cytokines potential therapeutic targets. Numerous case reports explore the treatment of severe NS using biological agents that target pro-inflammatory cytokines or specific immunoglobulins, including ixekizumab (anti-IL-17), infliximab (anti-TNF- α), ustekinumab (anti-IL-12/IL-23), omalizumab (anti-IgE) as well as Dupilumab (anti-IL-4/IL-13).

What's new

The immunological profile of NS has recently been studied. An IL-17/IL-36 signature has been identified, with predominant complement activation and a Th2-type allergic response in the NS subtype called linear circumflex ichthyosis (NS-ILC).

Dupilumab, an antagonist of the interleukin 4 and 13 alpha receptor, is a recognized treatment for moderate to severe atopic dermatitis.

This case report confirms that dupilumab represents an interesting treatment alternative for NS patients, particularly those exhibiting the NS-ILC phenotype. Furthermore, dupilumab demonstrates efficacy in areas of the skin devoid of inflammatory lesions, adding a valuable benefit in addition to its anti-inflammatory potential.