Resource Sheet 5
June 2021

Comparing and Contrasting Lymphocytic & Neutrophilic Cicatricial Alopecia

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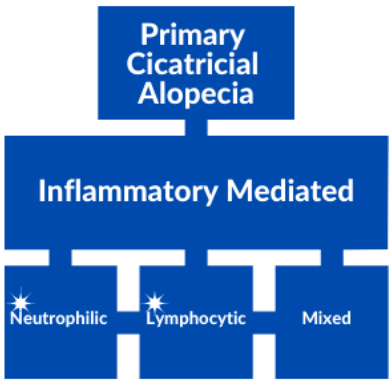
Scarring hair loss is called cicatricial alopecia which is caused by inflammation with an unknown source. Of cicatricial alopecia, there are two categories: primary and secondary cicatricial alopecia. Primary cicatricial alopecia (PCA), also called "scarring alopecia" is caused by an inflammatory reaction from neutrophils or lymphocytes at the upper portion of the hair follicle.[1] The North American Hair Research Society created classifications of PCA into lymphocytic, neutrophilic, or mixed which is confirmed by scalp biopsy and patient history.[2,3] The breakdown of primary cicatricial alopecia is detailed in figure 1. This results in permanent damage to hair follicles that prevent the regeneration of hair. A thorough past medical history is necessary for diagnosis of PCA as scalp biopsy alone cannot conclude a diagnosis.[1,2] An understanding of factors such as autoimmune diseases, age of onset, ethnicity, hair care, symptoms including itching, burning, or purulent discharge can be helpful in diagnosing PCA.[3] To better understand PCA, it is important to understand the differences between lymphocytic and neutrophilic cicatricial alopecia.

Figure 1: Different types of primary cicatricial alopecia. *Indicates those focused in this article.



Lymphocytic Cicatricial Alopecia

Lymphocytes are normal white blood cells part of the immune system such as T and B cells to work to attack foreign bodies such as bacteria, viruses, and toxins. These types of blood cells are "checked" to make sure they will not attack their host. This system is not perfect, and some that will attack the host or "self" will get out to general circulation and cause autoimmune diseases

causing cicatricial alopecia. According to the North American Hair Research Society, lymphocytic cicatricial alopecia can be caused by alopecia mucinosa, chronic cutaneous lupus erythematosus, central centrifugal cicatricial alopecia, frontal fibrosing alopecia, lichen planopilaris and variants, acne keloidalis nuchae, and Brocq pseudopelade.[1,3] Lymphocytic cicatricial alopecia commonly affects women, some underlying disorders such as front fibrosing alopecia disproportionally affecting postmenopausal women. Furthermore, central centrifugal cicatricial alopecia disproportionally affects black women more than other populations. Treatment of lymphocytic cicatricial alopecia is focused on decreasing and/or eliminating lymphocytes that are causing inflammation at the hair follicle. Treatments include oral medications such as immunosuppressive agents and antibiotics. Corticosteroid injections at the site of inflammation as well as topical corticosteroids can also be utilized.[1,3,4]

Neutrophilic Cicatricial Alopecia

Just like lymphocytes, neutrophils are a common white blood cell they differ as they are the most abundant and are the first line defense to a site of injury or infection. Presence of neutrophils is indicative of acute inflammation and infection as seen in pus with cellulitis and folliculitis[4]. Neutrophilic cicatricial alopecia is caused by folliculitis decalvans and dissecting cellulitis or folliculitis[2,3]. Although rare, dissecting cellulitis in the scalp occurs primarily in adult males and in black adolescents. Exceptions to this include familial causes where onset occurs in childhood. With folliculitis decalvans, women can be affected but typically not until the age of 30 and above[3]. Treatment of neutrophilic cicatricial alopecia is focused at eliminating the microbes exacerbating the inflammatory process at the scalp. This most often includes oral antibiotics with supplementation of topical corticosteroids and topical antibiotics. Additionally, intralesional corticosteroids and isotretinoin can also be implemented for care[1,3,4].

Although lymphocytic and neutrophilic PCA have their distinct differences they share similarities in the treatment and outcomes. There is not enough clinical trial evidence research regarding current treatment of PCA. Evidence is limited to case series and case reports discussing treatment determined by empirical data.[2,3] When discussing treatment options multiple factors must be taken into consideration including the extent of the disease, patient compliance with treatment, patient financial status, rate of progression of the disease, and adverse reactions that may occur. For both lymphocytic and neutrophilic, first line treatment is a topical corticosteroid. Upon identification of PCA, it is recommended to avoid excess heat and chemical treatments and to avoid tight braids and alternate hair styles, sewn or glued in hair.[2,3,4] Dismally, hair regeneration is not common unless the disease is recognized and treated early which can save the regenerating hair follicle cells, stem cells. In discoid lupus erythematosus and even lichen planopilaris, early treatment may allow for regrowth. Thus, it is important for early and effective treatment to manage PCA to reduce symptoms as well as slow the progression of the PCA. When identified early, conservation of retained hair is important.[3]

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