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Introductory Chapter: Alopecia Management – An Update

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1. Introduction

Alopecia involves a heterogeneous group of common skin disorders. This condition can be divided into non-cicatricial alopecia (a potentially reversible disease as the follicular epithelium is not replaced by connective tissue) and cicatricial alopecia (a permanent condition as the follicular epithelium is replaced by connective tissue causing injury of the follicular stem cell region [1, 2]).

The most common non-cicatricial alopecia are androgenic alopecia (AGA) and areata alopecia (AA). AGA is an androgen-dependent disorder, that happens in genetically susceptible patients, characterized by the change of scalp terminal hairs into miniaturized vellus hairs [3]. AGA is more frequent and more severe in older patients, with a prevalence of 80% among Caucasian men and 50% among women older than 70 years old [4, 5]. The male pattern hair loss is characterized by a progressive loss of hair in the frontal line, bitemporal line, and vertex while the female pattern hair loss is distinguished by a sparing frontal hairline with a crown diffuse central thinning. AA is an autoimmune disease caused in part by the loss of immune privilege in the hair follicle but its etiopathogenesis is not completely understood [6]. Patients with AA have a higher risk of developing other autoimmune disorders such as thyroid diseases, diabetes mellitus, and vitiligo [6]. The lifetime incidence of AA is approximately 2% worldwide [7]. Clinically, AA varies from the appearance of small, well-circumscribed patches of hair loss to a complete absence of body and scalp hair [8].

The most common cicatricial alopecia is frontal fibrosing alopecia (FFA). Genetic and hormonal factors, as well as, environmental variables may play a role in FFA [9]. The relation between this disease and sunscreen use is controversial in the literature [10]. FFA typically affects a postmenopausal woman. It is characterized by slow progression of hair loss in the frontal, temporal or frontotemporal scalp and eyebrows, with perifollicular erythema and scale around hair follicles [11]. A wide variety of other diseases can be also classified as cicatricial alopecia, such as lichen planus pilaris, chronic cutaneous lupus erythematosus, pseudopelade of Brocq or central centrifugal cicatricial alopecia.

2. Alopecia impacts on quality of life

Alopecia frequently affects visible areas, such as the scalp, and can lead to a significant impairment in the quality of life and social inhibition in patients. AGA

impairs quality-of-life (QoL) in both males and females, showed in lower rates in QoL scores, such as the Dermatology Life Quality Index (DLQI) [12], Hairdex scale [12], and Skindex-29 scale [13]. Moreover, AGA has a negative impact on sexual function in premenopausal women, reflected in a decreased FSFI compared to healthy females [14]. AA has also a great impact on patient's quality of life [15]. Impairments in DLQI as well as in alopecia-specific scores have been reported [16]. Role-emotional, mental health, and vitality domains seem to be the most affected [15]. Moreover, AA has a negative impact on anxiety, depression, and sleep quality both on patients and their cohabitants [17–19]. Sexual life is also impaired in patients with AA and their partners, showing that both males and females suffering from AA had decreased sexual quality of life with low Sexual Quality of Life for Females (SQOL-F) and Sexual Quality of Life for Males (SQOL-M) scores [19]. Furthermore, AA has been related to distressed personality (or Type D personality, TDp), a personality trait that has been associated with poor quality of life [17]. Although, few studies have evaluated the impact of FFA on QoL [20]. FFA is a cicatricial alopecia, typically appearing in postmenopausal women, one study found impairments in DLQI, anxiety and depression scores in patients with this disease [12]. Regarding other scarring alopecia there is scarce evidence regarding their comorbidities likely due to the low prevalence [20].

3. Alopecia treatments

There are scarce treatments approved for the treatment of this disease. In fact, topical minoxidil, oral finasteride, and low-level light therapy are the only Food and Drug Administration and European Medicines Agency-approved therapies to treat AGA. Nevertheless, there are many treatment options available used off-label for treating AGA, including other oral and topical modalities, hormonal therapies, nutraceuticals, PRP, exosome treatments, and hair transplantation [21]. There are different therapeutic options for AA, depending on the patient's age and AA severity. In patients with isolated patches of hair loss injections of potent corticosteroids are the best therapeutic options. In patients who refuse injections, potent topical corticosteroids could be considered the first-line therapy. If AA is extensive, systemic drugs are recommended. Systemic corticosteroids can be effective but long-term use is related to adverse events. Other systemic immunosuppressive agents that can be used in AA include methotrexate or azathioprine. JAK inhibitors, such as tofacitinib and baricitinib, are novel promising therapies for severe cases of AA [22, 23]. Topical corticosteroids, topical and oral minoxidil, 5-alpha reductase inhibitors, hydroxychloroquine, or isotretinoin can be used for AFF [24]. Topical corticoids are recommended, especially in the early inflammatory stage, but relapse occurs upon their discontinuation [21]. Potent topical steroids and calcineurin inhibitors reduce inflammation, but without any clear benefit in slowing the alopecia. Isotretinoin, acitretin, or finasteride could stop AFF [24]. Therapeutic options for other scarring alopecia will be directed toward the causative disease [2].

The number of patients consulting about alopecia and patients' and doctors' interest in this condition is rapidly increasing [25]. Moreover, treatments available for alopecia are also growing. In that way, this chapter will review the currently available treatment for AGA, FFA, and other scaling alopecia. Moreover, it will include a chapter about the psychological management of alopecia, due to the great psychologic impact this disease has, and a chapter about novel and less known treatments, such excimer phototherapy.

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