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REVIEW

Atopic Dermatitis: Update and Proposed Management Algorithm☆

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Abstract Atopic dermatitis is a chronic inflammatory disease that affects 20% of children and almost 3% of adults and is associated with considerable impairment of quality of life for both patients and their families. While the condition resolves spontaneously after puberty in over 75% of cases, it can persist into adulthood. Furthermore, in young children severe forms can have serious health consequences and affect social development. There are no appropriate guidelines on how to handle cases that do not respond to routine treatment. In this article, we review the current treatments for moderate to severe atopic dermatitis, describe our experience with this disease, and propose a management algorithm.

PALABRAS CLAVE
Dermatitis atópica;
Eccema atópico;
Tratamiento;
Severidad;
Score

Actualización en dermatitis atópica. Propuesta de algoritmo de actuación

Resumen La dermatitis atópica es una enfermedad inflamatoria crónica que afecta al 20% de los niños y casi al 3% de los adultos, produciendo un deterioro importante de la calidad de vida de los pacientes y sus familias. En más del 75% de los casos es autorresolutiva y mejora después de la pubertad. No obstante, hay casos que no consiguen esta mejoría o que en los primeros años de la vida alcanza niveles de severidad que afectan de forma importante la salud y el desarrollo social de los pacientes. Actualmente no contamos con guías terapéuticas adecuadas para solucionar estas situaciones que se escapan del manejo habitual. En el siguiente artículo repasamos las opciones terapéuticas de las que disponemos actualmente para afrontar casos de dermatitis atópica moderada-severa, aportamos nuestra experiencia y planteamos un posible algoritmo terapéutico.

Introduction

Atopic dermatitis is a chronic inflammatory disease characterized by outbreaks of marked xerosis and intense, sometimes intractable, pruritus. From the point of view of immunology, the disease is biphasic, with an initial acute phase that is predominantly a T helper (T_H) 2 response followed by a chronic phase in which the response is T_H2/T_H1.

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Four main factors interact closely in the etiology and pathogenesis of this condition: a genetic predisposition, impaired immunity, epidermal barrier dysfunction, and environmental factors. Atopic dermatitis can affect almost 20% of children and is considered the most prevalent chronic childhood disease. It affects between 1% and 3% of adults, predominantly in the most developed Western countries. The disease is considered to be self-limiting and it usually improves over time and disappears completely after puberty in up to 75% of cases. However, until this occurs, patients have to endure the symptoms for many years.

Atopic dermatitis has a major impact on the quality of life and psychosocial functioning of patients and their families. It has been shown that children who develop atopic eczema at a young age are at increased risk for developing hyperactivity and attention-deficit disorders at 10 years of age and that those who have infant eczema and concurrent sleep problems are more likely to develop emotional and behavioral disorders.[1] Children with atopic dermatitis deal with high levels of stress and anxiety,[2] which further aggravate the symptoms of their disease through the action of neuropeptides, such as substance P and neuropeptide Y. The families of patients with atopic dermatitis are also affected by the disease; in 1 study only 3.4% of family members reported having a normal quality of life, 23.3% were mildly affected, 66.4% moderately affected, and 6.9% said that the disease had a severe impact on their quality of life.[3] A close correlation has been demonstrated between impairment of quality of life and disease severity. All these factors make it important to achieve good control of atopic dermatitis, especially in children to ensure their normal personal and social development.

Patient Selection

Before deciding on a therapeutic approach, the physician must assess the patient's condition and establish the severity of their disease. A number of well-known instruments are used for this purpose, including the SCORing Atopic Dermatitis (SCORAD) tool, the Eczema Area and Severity Index (EASI), and the Six Area Six Sign Atopic Dermatitis Severity (SASSAD) index (Table 1).

The Patient Oriented SCORAD (PO-SCORAD) was validated in Europe in 2011 and the same study demonstrated its good correlation with the classic SCORAD.[4] This patient-oriented instrument can perhaps afford us more precise information concerning the current state and course of our patients' disease.[5] As is the case with all conditions characterized by periodic flares, if we only assess patients with atopic dermatitis when they seek treatment we risk underestimating or overestimating the severity of their condition. Some authors have suggested that the EASI and the Self-Administered EASI (SA-EASI) are the best tools for measuring and calculating the affected body surface area[6]; however, it has been established that both SCORAD and EASI are valid, reproducible, and sensitive instruments for the initial assessment and subsequent monitoring during treatment of patients with atopic dermatitis.[7] In addition to these scoring tools, the use of an appropriate age-adjusted instrument to assess the patient's quality of life is also recommended, as follows: the dermatology life quality index (DLQI) for adults, the infant's iDLQI for children up to 4 years of age,[8] and the children's DLQI[9] (cDLQI) for children aged 4 years and older.

Treatment

Introduction

Current guidelines for the control and management of atopic dermatitis establish the therapeutic algorithm summarized in Fig. 1,[10–14] and the steps involved are discussed below.

However, in some cases treatment fails to achieve clinical improvement even when all the steps defined have been taken.

Food, Hydration, and Skin Care

Whether or not children with atopic dermatitis should follow restrictive diets is a very controversial issue.[15,16] It has been discussed by a number of specialists and no consensus has yet been reached. Most authors stress the paucity of evidence supporting a restrictive diet, because most of the findings relating to atopy and diet tend to be contradictory, inconclusive, and inconsistent. However, other authors consider that in children under 2 years of age certain foods (eggs, cow's milk, peanuts, wheat, and soy products) may be a contributing factor in the development of atopic dermatitis in up to 20% of cases. Thus, they recommend that very young children should not be given these foods. Similarly, children who have a history of allergic responses to a particular food should avoid the trigger because cases have been reported of anaphylaxis when a food that has previously caused problems has been reintroduced. There is consensus on the importance of avoiding very restrictive diets without medical supervision, as these can lead to serious malnutrition. There is likewise considerable controversy about the role of breastfeeding. The protective role of avoiding breastfeeding during the first 3 months of life in cases where there is a family history of atopy is in doubt, as is the hypothesis that it is beneficial to maintain an exclusive diet of maternal milk and delay the introduction of complementary foods. In the absence of conclusive evidence, it is considered that breastfeeding regimens for children with atopic dermatitis should be the same as those used in healthy children. The use of prebiotics, probiotics, and synbiotics[17] (Table 2) in atopic dermatitis is a no less controversial subject. There is no evidence that probiotics provide benefits in patients with established atopic dermatitis. However, in a placebo-controlled trial, a reduced risk of childhood asthma was observed in children under 7 months with atopic asthma 1 year after receiving a course of synbiotics, with an almost 50% reduction in the prevalence of asthma-like symptoms.[18] Since children with atopic dermatitis have a high risk of developing asthma, synbiotic treatment is worth considering with a view to preventing or slowing down atopic march, although it has not been shown to change the course or severity of atopic dermatitis. There has been a great deal of discussion about the best diet for patients with atopic dermatitis.[19] The general conclusion is that they should avoid diets rich in polyunsaturated fatty acids and favor diets rich in antioxidants, such