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Use of Intravenous Immunoglobulin in the Treatment of Childhood Atopic Dermatitis

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Atopic dermatitis (AD) is a chronically recurrent inflammatory skin disorder characterized by pruritus, a specific distribution, and a family history. It has recently been reported that the incidence of AD has increased in Korea.[1,2] Pruritus, sleep loss, dietary restrictions, and psychosocial factors significantly decrease the quality of life for AD patients.[3,4] Recently, the European Academy of Allergy and Clinical Immunology and the American Academy of Allergy, Asthma, and Immunology published the PRACTALL consensus report for the diagnosis and treatment of AD in children and adults.[5] The report suggests a stepwise management that includes the addition of multiple therapeutic agents on the basis of the disease severity.

The PRACTALL consensus report defines severe or recalcitrant AD as AD that cannot be controlled with topical treatment.[6] In the 2009 Korean Work Group Report on the treatment of severe/recalcitrant AD, severe AD is defined as AD with a SCORAD index higher than 50 and that cannot be controlled with conventional treatment,[7] while the 2008 Guideline of Atopic Dermatitis in Korean Children defines severe AD by a SCORAD index higher than 40.[8] Specific criteria for the definition of recalcitrant and severe AD are necessary.

For the management of severe AD, the PRACTALL consensus report recommends systemic therapy such as antimicrobial treatment, systemic corticosteroids, cyclosporin A, azathioprine, anti-histamines, phototherapy, and immunotherapy. Several reports, including the 2009 Korean Work Group Report, have described intravenous immunoglobulin (IVIg) treatment as one of various immunoregulatory treatments. Nevertheless, this treatment was not included in the PRACTALL report.[7,9,10]

IVIg treatment displays immunomodulatory and anti-inflammatory properties, and its effectiveness in several immune-mediated conditions such as Kawasaki disease and idiopathic thrombocytopenic purpura has been demonstrated.[11] IVIg is considered a candidate for the treatment of AD because of its ability to downregulate T-cell function, particularly interleukin-4 production.[12,13] A small number of observations on the efficiency of IVIg in AD have been reported, but prospective and randomized studies for its clinical efficiency in childhood AD are sparse. A randomized, placebo-controlled prospective study in childhood AD patients is therefore required.[14]

Jee et al.[14] recently reported therapeutic effects of IVIg in childhood AD; however, this study involved moderate to severe AD patients, and it did not include severe AD patients because the disease severity might have affected the treatment results. Further randomized studies with strict criteria for recalcitrant/severe AD are warranted. In addition, the IVIg effective dose, the dosing interval for initiation and maintenance, the identification of biomarkers (e.g., ECP, ICAM-1, and IL-5/INF-gamma) to determine efficiency, and clear criteria for IVIg indications all require consideration.

Currently, we lack evidence-based data supporting the use of IVIg and other immunomodulators in childhood AD. Before IVIg can be recommended, its cost-benefit ratio, course, duration, and adverse reactions compared with alternative therapeutic options must be determined. The effects of novel therapies such as IVIg for recalcitrant/severe AD patients should be verified through repeated research and numerous research discussions.

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