

Evaluation of Disinfection Therapy for Atopic Dermatitis

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Introduction

There is a susceptibility to infection in one of the pathogenesis of atopic dermatitis [1-4]. Kobayashi et al. Have reported that *Staphylococcus aureus* in the onset and exacerbation of atopic dermatitis is involved [5]. From more of the skin of moderate or atopic dermatitis *Staphylococcus aureus* has been detected 100%. *Staphylococcus aureus* produce toxins at a high frequency. The toxins produced by *Staphylococcus aureus* will act as a super antigen [6]. That is, unlike the produce toxin normal antigens, by acting on antigen-presenting cells, and induce the order of magnitude of cytokines. In atopic dermatitis, as a failure of organs other than the skin, there are reports that acknowledge the lesions of the intestinal tract and cervical spine [7,8].

Abstract and Results

Staphylococcus aureus produces many kinds of toxins, the bacterial superantigens. The detection rate of toxins was 80.1% from 196 *Staphylococcus aureus* strains [9]. AD is frequently associated with intestinal and cervical lesions. We had already reported that we experienced new patients with AD and neurological examinations revealed abnormalities in 59 out of 81 AD patients [9]. In 23 AD patients who underwent neurological examination and duodenal biopsy, 18 patients showed abnormal findings both on neurological examination and in duodenal biopsy [9]. We had experienced that cervical MRI was performed in 46 patients randomly and showed abnormal findings in 38 of these patients [9]. As announced in the Journal of the up to now, there are some papers up to 2006 [9-14]. After that, we've stacked the number of cases in the two reports collectively [15,16]. Here, atopic dermatitis, which we have proposed would like to further emphasize the concept of to be one of the diseases of the superantigen to a lot of people.

Neurological examinations revealed abnormalities in 89 out of 110 AD patients. Cervical magnetic resonance imaging (MRI) was performed in 69 patients randomly and showed abnormal findings in 54 of these patients. In 32 patients who underwent MRI and duodenal biopsy, 5 were found to be normal neurologically and 6 patients showed normal duodenal tissue. However, 21 patients had abnormal findings both on neurological examination and in duodenal tissue. Serial duodenal biopsy tests were performed in 10 AD patients. In 5 patients, the findings of chronic duodenitis disappeared after the therapy with povidone-iodine. These data indicate that the therapy was effective not only for the skin lesions, but improved gastrointestinal tract lesions and cervical myelopathy, by eradicating bacterial superantigens [9-14]. We have patients who carried out the inspection of the intestinal tract and cervical spine is not is to choose only the selective severe cases of atopic dermatitis. Cases we went the inspection is a person who would like to check from their own. It also includes people of severe cases among them, but was also included people of moderate people and mild. So the results obtained will be understood to show the whole picture of atopic dermatitis. Among the patients who recognized neurological abnormalities, we have experienced many of the cases the degree of neurological abnormalities and extent of rash improvement has improved in parallel by the treatment. We have reported that the MRSA was able to sterilization to 25 cases in all cases that are detected MRSA in this treatment from the patient's skin of atopic dermatitis in Japanese [11].

Discussion

Kobayashi et al. have reported that *Staphylococcus aureus* in the onset and exacerbation of atopic dermatitis is involved [5]. IgE antibody titers to the toxin by *Staphylococcus aureus* which is produced is able to reflect the pathogenesis of atopic dermatitis has been shown in a number of reports. As failure of organs other than the skin in patients with AD, Yamada et al. reported the colitis

in patients with AD, Kira et al. admits cervical spine inflammation in patients with AD. Kino et al. have reported that showed inflammation in the colon of patients with AD of infants [7,8,17]. Skin rash is improved by their treatment in the case, yet they have reported that the inflammation of the colon was also recovery. We already reported that the failure of many patients in the duodenum and the cervical spine of AD was observed in the high rate. We are not animal studies in pursuit of multi-organ failure. But when we consider the cause of why multiple organ failure, we think that the toxin acts as a superantigen has caused multiple organ failure. This is felt that there will be high credibility.

We have developed a treatment method used in combination with disinfection therapy with Isodine® solution against *Staphylococcus aureus*, which is detected from the skin to the general treatment of AD. And we from the motion of the test data along with the improvement of the rash in many of the cases have already been a lot of reporting [9-14]. We have already reported that *Staphylococcus aureus*, which is detected from the skin of patients with AD is to produce a toxin at a high rate. *Staphylococcus aureus* is detected from the newborn patient's skin who developed AD. In addition we experienced that anti-IgE antibody against SEA (SEB) which is produced by *Staphylococcus aureus* demonstrated in the serum of patients with AD of a few months after birth. In patients with AD is there are many reports of that there is correlation between changes in the severity of the transition and the AD patients of anti-IgE antibodies to SEA (B) [18-21]. In cases where improvement of rash of patients by our treatment has improved, the number of cases of anti-SEA (B) IgE antibody value and the total IgE value of patients has improved in parallel we have already reported.

And Ochi et al. reported that superantigen is involved in disorders of the cervical spine [22]. Already in the United States has bleach bath therapy is incorporated into the treatment guidelines of AD, the need for *Staphylococcus aureus* measures are coordinated to the treatment. We hope the treatment to minimize the effect of the toxins that *Staphylococcus aureus* is produced. In the treatment of atopic dermatitis, the treatment method in which we have combined to common treatment methods of treatment to deal with the disinfection of *Staphylococcus aureus* that has developed is amazing in that regard. In the future we believe that this treatment is adopted as widely common treatment method.

Conclusion

Last year, for the first time in the world we had reported that AD may be one of the super-antigen diseases [15]. And echo which was published in the Journal of Pharmaceutical Microbiology titled *Staphylococcus aureus* vs. AD in April this year was great [16]. Since it has been demonstrated that *Staphylococcus aureus* in the onset or aggravation factors of AD are involved, in the future, we are sure the treatment that we have developed as a treatment to AD to be taken up by a number of doctors. When we carried out this treatment, not only the improvement of skin rash in patients with atopic dermatitis with MRSA that have been detected from the skin, the MRSA of all cases we were able to sterilization.

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