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The Clinical Efficacy of Azathioprine in Korean Patients with Atopic Dermatitis

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Dear Editor:

Atopic dermatitis (AD) is a chronic, distressing disease often requiring systemic treatment for disease control[1]. Drug candidates for AD, however, are limited; the long-term use of systemic steroid raises concerns for metabolic adverse effects, and cyclosporine has potential nephrotoxicity and is contraindicated in uncontrolled hypertensive patients. Azathioprine, an imidazole derivative of 6-mercaptopurine, is one of the alternative choices in the treatment of recalcitrant AD. Yet, its efficacy in AD patients has not been thoroughly investigated in Asian population.

From a computerized institutional database, we identified AD patients who underwent treatment with azathioprine from December 2009 to January 2011. A total of 20 patients were included (16 men, 4 women; mean age, 28.65±9.51 years; range, 13~43 years). Azathioprine was started at a dose of 100 mg/day. All patients were allowed to take antihistamine and topical steroids for symptomatic control and the management of localized lesions. The mean duration of azathioprine treatment was 22.20±19.85 weeks.

Overall, compared with baseline, improvements were observed in the eczema area and severity index (EASI) score from 26.12±3.20 to 15.15±3.05 ($p<0.017$) (Fig. 1). On the visual analogue scale, the degree of pruritus decreased from 7.35±1.66 to 4.10±2.89 ($p<0.001$) along with a

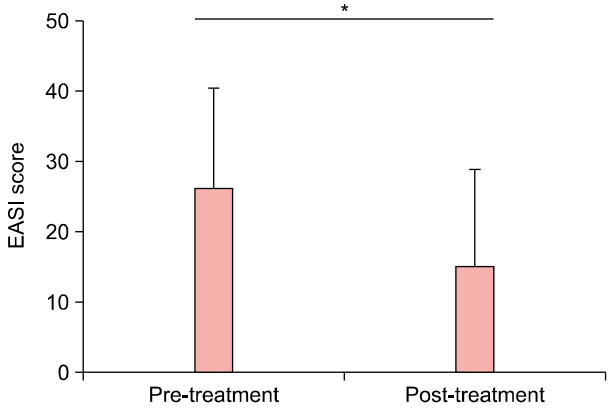

Fig. 1. Change in the eczema area and severity index (EASI) score before and after azathioprine treatment (mean treatment duration, 22.20±19.84 weeks). There was a 42% reduction in the EASI score from the baseline ($p<0.017$). *Statistically significant difference compared with the baseline.

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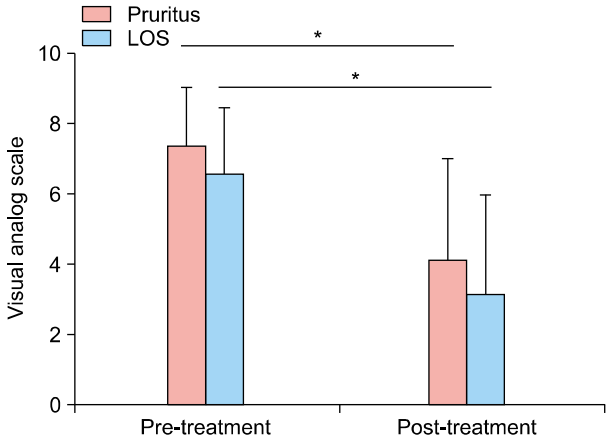

Fig. 2. Changes in pruritus and loss of sleep (LOS) before and after azathioprine treatment (mean treatment duration, 22.20±19.84 weeks). On the visual analogue scale, the degree of pruritus decreased from 7.35±1.66 to 4.10±2.89 ($p<0.001$), and LOS decreased from 6.55±1.88 to 3.10±2.86 ($p<0.001$). *Statistically significant difference compared with the baseline.

decrease in loss of sleep from 6.55±1.88 to 3.10±2.86 ($p<0.001$) (Fig. 2).

When azathioprine was insufficient in controlling flare-ups, the patients were prescribed with systemic steroid as a rescue drug. In our review, 40% (8 of 20) of the patients needed a rescue drug during the course of azathioprine treatment. After the discontinuation of azathioprine, 45% (9 of 20) of the patients were able to remain on a minimal disease status with only antihistamine, topical immunomodulators, or topical steroids.

In this study, we observed that after an average of 22.20±19.84 weeks of azathioprine treatment, 55% (11 of 20) of the patients reported "excellent" outcome according to Investigator's Global Assessment of clinical response. Our result was comparable to the 60% remission rate achieved in a study group of 37 patients treated with azathioprine during an 18-year period[2].

The decrease of EASI score in our study was higher than in previously reported placebo-controlled studies on azathioprine (26%[3] or 37%[4] reduction in severity). However, the improvement rate should take into consideration those who took rescue drugs.

For the adverse effects, there were no hypersensitivity reactions. Also, regular monitoring of complete blood count and routine chemistry did not show noticeable results. Although we have treated patients tolerant to 100 mg/day azathioprine for an average period of 88 weeks, this study has major limitations as there is no control group. The absence of a control group can both over- and underestimate the judgment on the efficacy of azathioprine. Nevertheless, decrease in the EASI score and improvement in subjective symptoms should provide some credentials for the clinical efficacy of azathioprine in AD and raise a suggestion that it can be an appropriate candidate for adult Asian AD patients who cannot use or are not responsive to cyclosporine.

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