

## Thromboxane A<sub>2</sub> is involve in the skin inflammation in mice with atopy-like dermatitis

Tsugunobu Andoh, Yuki Ando, Daisuke Uta, Toshiaki Kume

*Dept. Applied Pharmacol., Sch. Med. Pharm. Sci., Univ. Toyama*

Atopic dermatitis (AD) is chronic skin disease with sever pruritus and inflammation. Recently, we have reported that arachidonic acid metabolite thromboxane A<sub>2</sub> (TXA<sub>2</sub>) is an itch mediator and is involved in itch-related responses in mice with AD-like dermatitis. However, it is still unknown whether TXA<sub>2</sub> is involved in the skin inflammation of atopic dermatitis. Therefore, we demonstrated the involvement of TXA<sub>2</sub> in the skin inflammation in AD. In this study, male NC/Nga mice with AD-like dermatitis (dermatitis mice), which were bred under conventional environmental, and male healthy NC/Nga mice (healthy mice), which were bred under specific pathogen free environmental, were used. TP thromboxane receptor antagonist was locally applied in the rostral back skin, which was shaved hair, once a day for 7 days. Repetitive application of TP receptor antagonist was inhibited epidermal hyperplasia, the increase of the number of inflammatory cells. Repetitive application of TP receptor agonist U-46619 in the skin induced epidermal hyperplasia and increased the number of inflammatory cells. In addition, TP receptor antagonist also inhibited several cytokinins (such as IL-5) and chemokinins (such as eotaxin). These results suggest that TXA<sub>2</sub> is involved in the skin inflammation of AD through the expression of cytokinins and chemokinins.