

### 35. Relationship between Th17 cytokines and adipokines in psoriasis patients

Hideki Nakajima<sup>1)</sup>, Kimiko Nakajima<sup>1)</sup>, Masahito Tarutani<sup>1)</sup>, Ryuji Morishige<sup>2)</sup>, Shigetoshi Sano<sup>1)</sup>

<sup>1)</sup>Department of Dermatology, Kochi Medical School

<sup>2)</sup>Janssen Pharmaceutical K.K

Psoriasis is associated with an increase of Th17 cytokines which are produced by Th17 cells. It is well recognized that metabolic syndrome (MS) is prevalent in psoriasis patients, and adipose tissue-related cytokines (adipokines) contribute substantially to the pathogenesis of MS and psoriasis. We investigated the statistics of various circulating Th17-related cytokines and adipokines in psoriasis patients (n=30) and control subjects (n=30). Furthermore, we analyzed the relationship between those cytokines to understand their interaction in psoriasis and MS. Our study identified the significant elevation of serum IL-6, IL-21, IL-22, and resistin levels in psoriasis patients. Increased serum levels of IL-22 and adiponectin were positively correlated with Psoriasis Area and Severity Index (PASI). In contrast, serum high molecular weight (HMW) adiponectin levels were decreased in psoriasis and negatively correlated with PASI. The biological effects of adiponectin in psoriasis could be dissected on its molecular weight. Our results revealed that there was a strong positive association between adiponectin and IL-22 in psoriasis patients. A significant positive relationship was also found between resistin and TNF- $\alpha$ . Retinol-binding protein-4 (RBP-4) was negatively correlated with IL-6, IL-22 and TNF- $\alpha$  in psoriasis. Serum levels of adiponectin, resistin and RBP-4 closely correlated with inflammatory cytokines. Th17 cytokines and adipokines may represent a novel link between psoriasis and metabolic signals.