PSORIASIS

SEVERE PSORIASIS IS ASSOCIATED WITH GASTROINTESTINAL SYMPTOMS, INTESTINAL BARRIER DYSFUNCTION AND INCREASED PLASMA CONCENTRATION OF GUT MICROBIOTA-DERIVED METABOLITES.

M Sikora [1] - M Chrabaszcz [1] - M Olszewska [1] - L Rudnicka [1]

Medical University Of Warsaw, Department Of Dermatology, Warsaw, Poland [1]

Background: Growing number of evidence suggests that psoriasis is a multisystem inflammatory disease associated with multiple internal comorbidities. Recently, a considerable interest has been focused on interaction between gut microbiome, intestinal barrier and immune system. That so-called „gut-skin axis" has been considered as a key factor in the etiology of psoriasis.

Objective: The aim of this study was to assess relationship between psoriasis severity, self-reported gastrointestinal symptoms, intestinal barrier integrity and gut microbiota-derived metabolite trimethylamine N-oxide (TMAO).

Materials and Methods: One hundred consecutive patients with chronic plaque psoriasis and 60 apparently healthy controls matched for age, sex and body mass index were enrolled. Gastrointestinal Symptoms Rating Scale was used to assess the degree of gastrointestinal symptoms. To examine gut barrier integrity we measured serum concentrations of claudin-3, a modulator of intestinal tight junctions and intestinal fatty acid-binding protein (I-FABP), a marker of enterocyte damage. TMAO concentration was measured through high performance liquid chromatography.

Results: The frequency and severity of self-reported gastrointestinal symptoms was remarkably greater in patients with moderate to severe psoriasis ($p < 0.05$). In a subgroup of patients with psoriasis, those with severe disease had significantly higher plasma concentration of claudin-3 (47.3±2.2 vs 56.1±5.1 ng/mL, $p < 0.05$) and I-FABP (549.7±31.6 vs 725.5±20.4 pg/mL, $p < 0.01$). Plasma concentration of TMAO showed a significant positive correlation with severity of psoriasis according to the Psoriasis Area and Severity Index score ($r2 = 0.69$, $p < 0.05$).

Conclusions: Our results support the hypothesis that psoriasis is associated with an altered intestinal barrier function and disturbances in the balance between microbiota and immune

system. Future research are focused on ways of enhancing gut barrier function.