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The skin, a reflection of intestinal function?

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Introduction and objectives

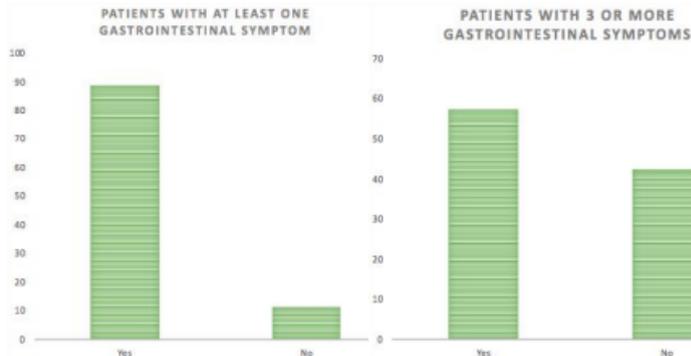
The gut and skin microbiota are known as dynamic ecosystems trying to maintain homeostasis and dodging modifications that could impact positively or negatively on either system. (1) The association of several gastrointestinal diseases with skin pathologies have been carefully described focusing on the immense effect of gut microbiota. (1) The alteration in the intestinal microbiome, also known as dysbiosis, can result in an increase of intestinal permeability, triggering the dysregulation of the immune response and developing systemic chronic inflammation (SCI), which could perpetuate pilosebaceous unit diseases (PUD). (2) We aim to highlight the presence of gastrointestinal symptoms as an indicator of possible SCI in patients diagnosed with PUD.

Materials and methods

We performed an observational study in patients diagnosed with PUD who were asked about gastrointestinal symptoms. We analyzed 230 patients from January to March 2021 who attended a dermatological center in Bogota, Colombia. The variables included age, gender, PUD diagnosis (acne, rosacea, psoriasis, seborrheic dermatitis, atopic dermatitis and folliculitis), its progression time and presence of gastrointestinal symptoms (abdominal distension, flatulence, abdominal pain, altered bowel habits and dyspepsia). P-values were calculated with non-parametric tests. Data was collected and analyzed using Microsoft® Excel and SPSS 26.

Results

Out of 230 patients, 67.8% (n=156) were women. The median age was 30.5 years (IQR 31,0). The median of disease progression time was 36 months (IQR 97.2). Rosacea was the most common PUD with 96 cases (41.7%) followed by acne. The most common gastrointestinal symptom was abdominal distention in 145 patients (63.0%), followed by flatulence in 140 patients (60.9%). Additionally, the PUD that suffered the most from abdominal distention and flatulence was rosacea (49.0%). Moreover, 88.0% (n=204) of the patients suffered from at least 1 gastrointestinal symptom (p=0,004) and more than half had 3 or more gastrointestinal symptoms (p=0,009).



Conclusions

The results of our study show an association between PUD and gastrointestinal symptoms. We believe that daily dermatological practice should evaluate gastrointestinal symptoms in order to consider chronic systemic inflammation as one of the main causes of cutaneous diseases. Thus, the use of probiotics and prebiotics could become a key tool for the comprehensive management of these patients and an anti-inflammatory diet should be included as a cornerstone in PUD treatment. Further studies with larger populations are needed to support these associations.

References

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2. Arck, Petra et al. "Is there a 'gut-brain-skin axis'?" *Experimental dermatology* vol. 19,5 (2010): 401-5