



Descriptive evaluation of the gut-brain-skin axis in inflammatory cutaneous diseases during COVID-19 lockdown in Bogotá, Colombia

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Introduction and objectives

The gut-brain-axis encompasses an association between chronic inflammatory skin diseases and mental health disorders including anxiety, depression and stress that can develop a disruption on the gut microbiota resulting in systemic inflammation. On the other hand, COVID-19 lockdown has generated many changes in our lifestyle including the use of sanitizers and personal protective equipment (PPE) in addition to stress and significant psychosocial impact. In Colombia only a few studies have been published evaluating this association including anxiety among patients with dermatosis. Our study aims to determine the impact of COVID-19 outbreak on inflammatory skin diseases, providing evidence for the concept of the gut-brain-skin axis.

Materials and methods

We performed an observational study among 308 patients, who attended a dermatological center in Bogotá, Colombia. We included patients diagnosed with inflammatory cutaneous diseases such as rosacea, acne, seborrheic dermatitis (SD), atopic dermatitis (AD) and psoriasis between April 2020 and March 2021 during the COVID-19 pandemic lockdown in Colombia. We asked about the presence of gastrointestinal (GI) symptoms, exacerbation of cutaneous disease and its relation with the use of PPE. Then we applied the Dermatology Quality of Life Index (DLQI), COVID-19 anxiety scale (CAS) and Hospital Anxiety and Depression Scale (HADS) of which only the questions concerning anxiety were analyzed. Data was collected and analyzed using Microsoft® Excel.

Results

Out of 308 patients, 211 were women. Patients with acne were 36.69% (n=113), 19.81% (n=61) had rosacea, 15.91% (n=49) SD, 15.01% (n=40) AD and 11.69% (n=36) psoriasis. More than half of the patients (59.74%) had worsening of their disease, particularly acne in more than two thirds of the patients, where 43.36% of them linked their symptoms with the use of PPE. According to HADS-A, 76.65% did not have clinically relevant anxiety symptoms, although 18.37% of AD patients had a probable case of anxiety disorder. Additionally, in AD patients 28.57% had a moderate effect in their QoL according to DLQI. GI symptoms suggestive of irritable bowel syndrome were present in 169 (54.87%) patients, 115 of them had exacerbation of GI symptoms and one third exhibited probable anxiety symptoms. Regarding acne, a quarter of patients had GI symptoms. Among rosacea patients, 31.15% presented recurrent abdominal pain during the last three months and almost one fifth of all patients manifested disease exacerbation with concomitant GI symptoms. Half of SD patients suffered from recurrent abdominal pain during the last three months and a half of patients presented GI symptoms. Amid AD, almost two thirds of the patients had an exacerbation of the disease and 40.82% of them exhibited GI symptoms.

PERCENTAGE OF PATIENTS WHO EXPERIENCED WORSENING OF GASTROINTESTINAL SYMPTOMS DURING COVID-19 PANDEMIC



Conclusions

The impact of lockdown during COVID-19 pandemic on dermatological inflammatory diseases rely on emotional and mechanical factors. Results showed that chronic cutaneous inflammatory diseases were linked with GI symptoms as it is reported in the literature, suggesting that disturbances in gut microbiome could aggravate the inflammatory response and therefore disrupting the gut-brain-skin axis. We propose the need to consider the lockdown impact on patients' health in the daily practice to provide a multidisciplinary and effective treatment of these skin disorders. Further studies are needed to support the involvement of the skin-gut-brain axis in inflammatory skin diseases.

References

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