Individuality of the composition of the human microbiota

Sirs,

We read with interest the article by Natalello et al. (1) where it has been found a great association between immunological diseases and intestinal microbiota, performing an analysis of the faecal microbiota in a cohort of patients with systemic sclerosis and paired healthy controls (HC), to obtain some hints about a possible role of dysbiosis in the onset, progression, and severity of the disease. However, they do not take into account the individuality of the microbiota in each person, being different by multiple factors, including race, sex, culture, diet, among others.

Systemic sclerosis is a chronic disease, categorised as rare and multisystemic, with high mortality within autoimmune diseases characterised by cutaneous fibrosis and vasculopathy (2, 9). In this context, it is intended to associate the quantitative and qualitative variation in bacterial populations with warning signs of pathological states in autoimmune diseases, specifically in systemic sclerosis. We suggest considering the individuality of the composition of the intestinal microbiota since it is known that each human being has a unique and specific profile capable of meeting their needs (3). In a study that evaluates the composition of the microbiota in individuals who lived in strictly controlled environments (astronauts) there is evidence that even in the same systems of intake, food safety, age, and other habits capable of modifying the microbiota, it maintains compositional traits particular to each individual (3, 4).

Throughout life we find various factors that modify the microbiota early, as if it were a full-term child, born vaginally, and fed with healthy and balanced breast milk, as the basis for the development of intestinal microbiota. Later, among them are age, the use of antibiotics, diet, and comorbidities (such as diabetes mellitus, overweight, autoimmune diseases, etc.) (5, 6). We must mention that with the first solid foods the biggest changes of microbiota occur (3).

In animal models, it has been shown over time that the intestinal microbiota influences the capacity to modulate energy homeostasis, adiposity, and inflammation in the host, this last characteristic is what interests us in autoimmune diseases (7). We know that the microbiota contributes to several innate and acquired immune functions, as in multiple sclerosis, where it influences the prevention, initiation, and treatment of the disease, in terms of its immune response (8).

The microbiota is an excellent way to reach an ideal treatment and a better prognosis for autoimmune diseases. However, we must take into account the factors already mentioned. Therefore, we can conclude that to carry out a more complete study, a bigger number of participants is needed and with more diverse physical, racial, and cultural characteristics so that it has a greater impact and high applicability.

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