Systemic lupus erythematosus in PubMed: a review of the articles published in 2018

Sirs,

Every year, although thousands of articles on systemic lupus erythematosus (SLE) are published, the aetiology remains unknown and treatments are not always effective. A detailed analysis of the published articles in medical journals provides a privileged viewpoint on the current trends of research from both, basic and clinical studies.

Battista *et al*. (1), comment the most relevant articles on SLE published in 2017, about the pathogenesis (immunological alterations and genetic and epigenetic factors), clinical studies, patient quality of life, diagnosis and biomarkers, new treatments, complications and comorbidities. However, they hardly comment on some articles on the aetiology of lupus disease, for example environmental factors, the new evidence on the relationship between genetic polymorphisms and tobacco consumption and hypovitaminosis D.

In our work on SLE in PubMed: a review of the articles published in 2016 (2), of the 2290 articles that appeared with the term "systemic lupus erythematosus", the majority of them were also on immunological, genetic, clinical and therapeutic aspects, and only a very few focused on the possible causes of lupus disease. In 2018, 3078 articles appeared in PubMed with the term ""lupus", and again, as in 2016, a significant number of them were reviews of some aspect of the disease (17% in 2018; 18% in 2016), immunological and genetic studies (16% in 2018, 29% in 2016), clinical cases isolated (14% in both 2018 and 2016), and treatment (5% in both 2018 and 2016). Again, in 2018, there were very few works focused on the environmental causes and factors related to the disease, although there were some relevant contributions. We think it is interesting to consider the works that suggest that an increase in the incidence of autoimmune diseases could be due to alterations in the intestinal microbiota, as a consequence of dietary changes and the general introduction of antibiotics (3). It is notable that Manfredo Vierira *et al*. reported that the gram-positive bacterium enterococcus gallinarum has a causative role in a mouse model of SLE. The authors found that the antibiotic treatment extended the lifespan of mice prone to the development of lupus, and further, that there was a significant reduction in the antibodies to double-stranded DNA (4).

During the last decades, it has been suggested, based on some epidemiological evidence, that there is a possible association between lupus and stress, exposure to air pollution, ultraviolet light, silica, solvents, pesticides, metals, smoking, oral contraceptives, endometriosis, alcohol consumption, infections and vaccines. However, we still do not know the cause of this disease which has contributed so significantly to the development of immunology and genetics.

The identification of the cause and/or environmental risk factors related to SLE is essential and would produce a drastic change in the management of this complex disease. In this sense, we consider that an international health policy, similar in terms of investment and resources to that which was applied to the study of the cause of acquired immunodeficiency syndrome, would be another very important advance in the history of medicine.

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