Reviewer’s report

Title: What is next after the genes for autoimmunity?

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Reviewer: Noel Rose

Reviewer’s report:

Castiblanco and Anaya have done an excellent job of bringing together the diverse studies of different autoimmune disorders and emphasizing the common features. The paper is useful and informative of the situation in genetics of autoimmune disease as it has existed in the past. Unfortunately, it does not also deal with the topic expressed in the title, “What is next after the genes for autoimmunity?” For example, while the authors refer to the concordance rate between identical twins, they fail to point out that the random recombination mechanisms inherent in the adaptive immune response mean that by chance even genetically identical individuals do not have identical immune systems. Second, we know that the presence of particular alleles in the genome is not equivalent to gene expression and the role of promoters (or suppressors) must be considered when one looks to future issues of genetic susceptibility. Perhaps the role of hormones could be appropriately considered at this point. Finally, the importance of epigenetics is becoming more evident every day and represents a major determinant of risk of autoimmune disease. While the present article is a valuable review of the past, a glance to the future would make it more exciting.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

None