

The role of genetics and the environment in systemic lupus erythematosus pathogenesis: A review of the past decade

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INTRODUCTION

Systemic lupus erythematosus (SLE) is a systemic autoimmune disease that causes inflammation in multiple body systems. Clinical manifestations are varied and can range from mild rashes to end-organ damage. The pathogenesis of SLE is complex and much is still unknown. Genetic factors are widely agreed to play a role, however known susceptibility genes only account for a percentage of SLE risk and heritability. Environmental factors, external exposures that can cause biological changes, can also interact with preexisting SLE genes, increasing disease risk.

Aim 1

Identify result patterns across multiple articles

Aim 2

Summarize the recent major findings in SLE genetics and environment

METHOD

Search databases using key terms e.g. “lupus”, “SLE”, “GWAS”, “microbiota”

Remove articles that did not meet inclusion criteria:

- English
- Publication date 2011-2020

Article with priority were read first and met at least one of the following criteria:

- High impact journal
- Large data set

Focus on patterns seen in multiple articles. Are the same genes/environmental factors implicated? Comparable results? Deviations from pattern?

Search 🔍

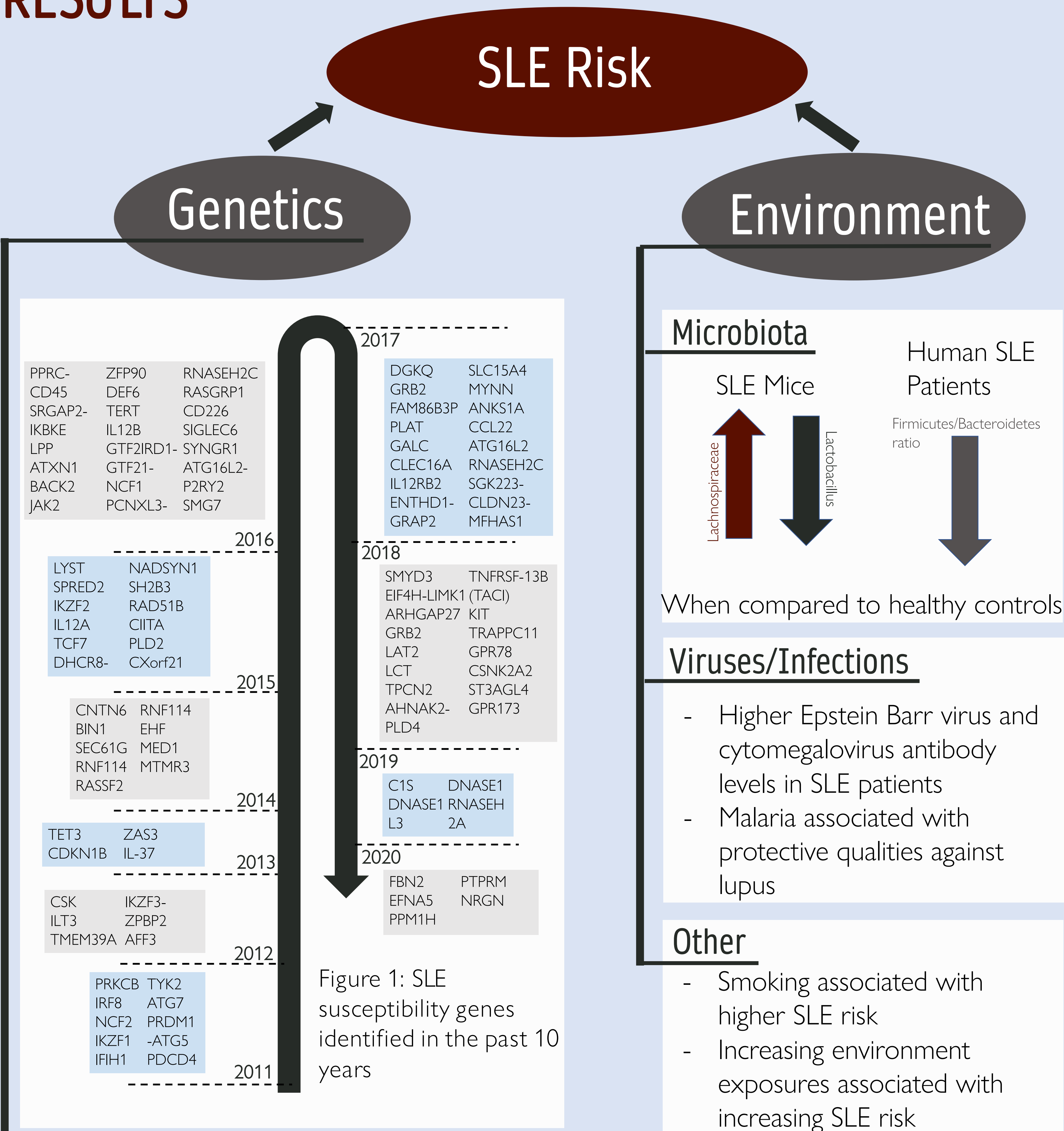
Filter 🗑️

Priority !

Analysis 🧩

Search references for other relevant articles

RESULTS



CONCLUSION

Understanding the factors that contribute to the development of systemic lupus erythematosus is crucial to identifying methods to reduce risk and improve outcome. In recent years, many studies have given us more insight to the environment and genetic factors that play a role in SLE. The aim of this review was not to cover all the available literature, but rather to identify common themes in the research. We limited our review to this past decade in order to highlight the current questions that remain unanswered within this topic and to familiarize readers with the most crucial findings.

References

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