ASSOCIATION BETWEEN CIGARETTE SMOKING AND SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) – AN UPDATED META-ANALYSIS OF CASE-CONTROL AND COHORT STUDIES

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Background: While the association between cigarette smoking and the occurrence of SLE has been studied over the past two decades, conflicting results have rendered such association controversial. With the global increase in woman smokers and more prospective data addressing the risk of the development of SLE and cigarette smoking being available, it is timely to provide an update on the evidence of the relationship between cigarette smoking and the occurrence of SLE.

Objectives: To study the association between cigarette smoking and the odds, as well as the risk of SLE occurrence by meta-analyses of case-control and cohort studies.

Methods: We performed an extensive literature search using the relevant keywords including “systemic lupus erythematosus”; “lupus”; “smoking”; “cigarette smoking”; “environmental”; “autoimmune disease” and “connective tissue disease” in various combinations to identify case-control and cohort studies addressing the relationship between cigarette smoking and SLE published in English in computerised databases including PubMed (from 1966 to Jan 2018). We included studies published in English until January 2018. We performed a meta-analysis of all eligible case-control studies and cohort studies.

Results: A total of 13 case-control studies and 8 cohort studies were included in the analysis. The results of the meta-analysis showed a significant association between cigarette smoking and SLE. The summary ORs of the case-control studies and cohort studies were 1.639 (95% CI: 1.217–2.206, I²=74.7) and 1.573 (95% CI: 1.176–2.090, I²=39.9), respectively. The funnel plot showed no evidence of publication bias.

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