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REPRODUCTIVE FACTORS AND LUNG CANCER RISK: A COMPREHENSIVE SYSTEMATIC REVIEW AND META-ANALYSIS

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Background

A number of studies have investigated the association between reproductive factors and lung cancer risk, however, findings are inconsistent.

Methods

We conducted a comprehensive systematic search to identify relevant and eligible studies published before 29th August 2018. Between-study heterogeneity was assessed using the Q test and I² statistic. Based on the heterogeneity of each reproductive factor, fixed and random effects models were used to calculate the summary odds ratios (ORs) and 95% confidence intervals (CIs). Subgroup analyses by study design, lung cancer subtypes, smoking status and ethnicity were also performed.

Results

A total of 63 studies with 21 distinct reproductive factors were included in this meta-analysis. Comparing the highest and lowest categories (reference) of each reproductive factor, parity, menstrual cycle length and age at first pregnancy were significantly associated with decreased risk of overall lung cancer. On the contrary, women with non-natural menopause and ovariectomy had increased lung cancer risk. For never-smokers, a significant association was found between hormone use and reduced lung cancer risk, particularly among Caucasian women.

Conclusion

These results imply that certain reproductive factors may be associated with lung cancer risk. Future studies should further validate the association and investigate the underlying mechanisms.