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A meta-analysis of the association between induced abortion and breast cancer risk among Chinese females

Yubei Huang · Xiaoliang Zhang · Weiqin Li · Fengju Song ·
Hongji Dai · Jing Wang · Ying Gao · Xueou Liu · Chuan Chen ·
Ye Yan · Yaogang Wang · Kexin Chen

Abstract

Objective To evaluate the association between induced abortion (IA) and breast cancer risk among Chinese females.

Methods We searched three English databases (PubMed, ScienceDirect, and Wiley) and three Chinese databases (*CNKI*, *WanFang*, and *VIP*) for studies up to December 2012, supplemented by manual searches. Two reviewers independently conducted the literature searching, study selection, and data extraction and quality assessment of included studies. Random effects models were used to estimate the summary odds ratios (ORs) and the 95 % confidence intervals (CIs).

Results A total of 36 articles (two cohort studies and 34 case–control studies) covering 14 provinces in China were included in this review. Compared to people without any history of IA, an increased risk of breast cancer was observed among females who had at least one IA (OR = 1.44, 95 % CI 1.29–1.59, I^2 = 82.6 %, $p < 0.001$, $n = 34$). No significant publication bias was found among the included studies (Egger test, $p = 0.176$). The risk increased to 1.76 (95 % CI 1.39–2.22) and 1.89 (95 % CI 1.40–2.55) for people who had at least two IAs and at least three IAs, respectively. Subgroup analyses showed similar results to the primary results. Meta-regression analysis of the included studies found that the association between IA and breast cancer risk attenuated with increasing percent of IA in the control group ($\beta = -0.022$, $p < 0.001$).

Conclusion IA is significantly associated with an increased risk of breast cancer among Chinese females, and the risk of breast cancer increases as the number of IA increases. If IA were to be confirmed as a risk factor for breast cancer, high rates of IA in China may contribute to increasing breast cancer rates.

Y. Huang · X. Zhang · F. Song · H. Dai · X. Liu · C. Chen ·
Y. Yan · K. Chen (✉)
Department of Epidemiology and Biostatistics, Tianjin Medical University Cancer Hospital and Institute, National Clinical Research Center for Cancer, Tianjin, China
e-mail: chenkexin1963@yahoo.com

Y. Huang · X. Zhang · F. Song · H. Dai · X. Liu · C. Chen ·
Y. Yan · K. Chen
Key Laboratory of Cancer Prevention and Therapy, Tianjin, China

Y. Huang · X. Zhang · F. Song · H. Dai · X. Liu · C. Chen ·
Y. Yan · K. Chen
Key Laboratory of Breast Cancer Prevention and Therapy, Tianjin Medical University, Ministry of Education, Tianjin, China

W. Li
Project Office, Tianjin Women's and Children's Health Center, Tianjin, China

J. Wang · Y. Gao · Y. Wang
Department of Social Medicines and Health Service Management, School of Public Health, Tianjin Medical University, Tianjin, China

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