INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Association of Interleukin-10 Polymorphism (rs1800896, rs1800871, and rs1800872) with Breast Cancer risk: an Updated Meta-Analysis based on different ethnic groups

Li, L[1]; Cao, ML[2]; Li, DH[3]; Xiong, W[4]; Cao, JG[5].

Review question / Objective: **The objective of study was to further evaluate the association between IL-10 gene polymorphism and breast cancer (BC).**
Condition being studied: **Association of Interleukin-10 Polymorphism (rs1800896, rs1800871, and rs1800872) with Breast Cancer risk.**
Information sources: **Research articles on the relationship between il-10 gene polymorphism and BC risk in different databases including PubMed, Web of Knowledge, Embase, CNKI, CBM, VIP, WanFang Data, and Google academic.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 March 2021 and was last updated on 18 March 2021 (registration number INPLASY202130061).

INTRODUCTION

Review question / Objective: **The objective of study was to further evaluate the association between IL-10 gene polymorphism and breast cancer (BC).**

Condition being studied: **Association of Interleukin-10 Polymorphism (rs1800896, rs1800871, and rs1800872) with Breast Cancer risk.**

METHODS

Participant or population: **The breast cancer patients in Asians, Caucasians and mix race.**

Intervention: Non-interleukin-10 Polymorphism (rs1800896, rs1800871, and rs1800872) with Breast Cancer was excluded.

Comparator: Healthy controls.

Study designs to be included: (1) the case group was clinically diagnosed with BC and the control group was healthy; (2) Case-control studies or cohort studies to evaluate the relationship between IL-10 polymorphism and BC risk; (3) full-text published in Chinese and(or) English; (4) Report the number of cases and controls for each genotype and detailed genotyping data, or knowing the odds ratio (OR) helps to calculate the 95% confidence interval (CI).

Eligibility criteria: 95% CI without 1 and P < 0.05 were considered statistically significant.

Information sources: Research articles on the relationship between il-10 gene polymorphism and BC risk in different databases including PubMed, Web of Knowledge, Embase, CNKI, CBM, VIP, WanFang Data, and Google academic.

Main outcome(s): IL-10 gene polymorphism is not associated with BC susceptibility in the general population but is closely related to race. rs1800896 and rs1800872 significantly increased the risk of breast cancer in Asians, while rs1800871 was associated with the risk of breast cancer in Caucasians.

Quality assessment / Risk of bias analysis: Funnel plot, Begg's test, and Egger's test were used to evaluate the publication bias (Stata12.0). As shown in figure 6, the funnel plot is essentially symmetrical and the P values of Begg's test and Egger test are all greater than 0.05.

Strategy of data synthesis: Research articles on the relationship between il-10 gene polymorphism and BC risk in different databases including PubMed, Web of Knowledge, Embase, CNKI, CBM, VIP, WanFang Data, and Google academic were retrieved with the keywords: Interleukin10/ IL-10, 1082A/G/rs1800896, 819T/C/ rs1800871, 592A/C/rs1800872, Breast carcinoma/Breast cancer" etc. Also, we manually screened the references of relevant articles and reports, and searched the references of included literature, review, and meta-analysis, to maximize the inclusion of studies that meet the standards. All eligible studies were searched until March 29, 2020. Take the PubMed database as an example to list the retrieval strategies.

Subgroup analysis: Ananlysed the realtionship between IL-10 polymorphism (rs1800896, rs1800871, and rs1800872) and Asian, Caucasians and mixed groups.

Sensitivity analysis: Sensitivity analysis was performed to assess the stability of the results. The Funnel plot, Begg'test, and Egger'test were used to evaluate publication bias. RevMan5.3 and Stata 13.0 software was used for the above statistical analysis.

Country(ies) involved: China.

Keywords: Interleukin -10; Gene polymorphism; Breast cancer; Meta-analysis.

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