

INPLASY PROTOCOL

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The meta-analysis of the correlation between plasma Vitamin C and prostate cancer

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Review question / Objective: P: Prostate cancer patients; I: vitamin C intake; C: low vitamin C intake; O: the happening of prostate cancer.

Condition being studied: There have been plenty of researches about vitamin C intake and prostate cancers and researches about the mechanism focus on the antioxidant effect which serves as a membrane protector and prevent cells from free radicals. But previous researches gave a controversial conclusion. For prostate cancer, though the latest meta-analysis presented a significant association, an RCT come out recently announced that there was no evidence to prove the association. This controversial results may be the reason of mixed articles selection, meaning that the OR and HR was calculated together and prospective researches were not isolated from retrospective researches. Besides the population was restricted in a small number, which can also serve as a reason of bias.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 June 2021 and was last updated on 02 June 2021 (registration number INPLASY202160001).

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Conflicts of interest:
None declared.

INTRODUCTION

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controversial conclusion. For prostate cancer, though the latest meta-analysis presented a significant association, an RCT come out recently announced that there was no evidence to prove the association. This controversial results may be the reason of mixed articles selection, meaning that the OR and HR was calculated together and prospective researches were not isolated from retrospective researches. Besides the population was restricted in a small number, which can also serve as a reason of bias.

METHODS

Participant or population: Prostate cancer patients.

Intervention: Vitamin C intake.

Comparator: Low vitamin C intake.

Study designs to be included: Prospective cohort and RCTs.

Eligibility criteria: 1) a prospective cohort research or RCT; 2) searched the correlation between prostate cancer and vitamin C intake; 3) reported risk estimates (OR or HR).

Information sources: Pubmed, EMBASE, Cochrane.

Main outcome(s): The happening of prostate cancer.

Quality assessment / Risk of bias analysis: Quality assessment was performed according to Cochrane Handbook for Systematic Reviews of Interventions 5.1.0. The quality of articles were categorized by the following standard: A. if all quality criteria were adequately met, the study was deemed to have a low risk of bias; B: if one or more of the quality criteria was only partially met or was unclear, the study was deemed to have a moderate risk of bias; or C:if one or more of the criteria were not met, or not included, the study was deemed to have a high risk of bias.

Strategy of data synthesis: The heterogeneity was evaluated by I^2 value (>35%, significant) and p-value (<0.05, significant) in advance. If the heterogeneity is not significant, the fixed model was applied. Otherwise, the random effect model was chosen.

Subgroup analysis: No subgroup analysis is performed.

Sensitivity analysis: The sensitivity analysis was performed with metanif package in STATA 16.0.

Language: English.

Country(ies) involved: China and USA.

Keywords: Incidence of prostate cancer, orally intake vitamin C, prostate cancer.

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