

INPLASY PROTOCOL

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None declared.

Association between *Helicobacter pylori* infection and Henoch-Schonlein purpura in children: A systematic review and meta-analysis

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Review question / Objective: ① **P:** Children aged 2-15 years old with HSP. No restriction is applied on sex, race, condition or course of participants. ② **I:** Presence of *Helicobacter pylori* infection. ③ **C:** No *Helicobacter pylori* infection. ④ **O:** To identify and analyze clinical studies to determine the direct correlation between *Helicobacter Pylori* infection and Henoch-Schonlein purpura in children.

Condition being studied: Henoch-Schonlein purpura (HSP) is the most common capillary systemic allergic disease, it is mainly characterized by characteristic skin rash, involving skin, joints, digestive tract and kidney. At present, the etiology and pathogenesis of HSP are not clear, the general view is the disorder of immune function. In recent years, more and more studies have shown that *Helicobacter pylori* infection is closely related to HSP in children, but the conclusions are not completely consistent. Therefore, this study aims to clarify the association between *Helicobacter pylori* infection and HSP in children, so as to provide evidence for the clinical diagnosis and treatment.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 February 2022 and was last updated on 14 February 2022 (registration number INPLASY202220051).

INTRODUCTION

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METHODS

Participant or population: Children aged 2-15 years old with HSP. No restriction is applied on sex, race, condition or course of participants.

Intervention: Presence of *Helicobacter pylori* infection.

Comparator: No *Helicobacter pylori* infection.

Study designs to be included: Case-control studies will be included.

Eligibility criteria: ①Participants are children aged 2-15 years old with HSP. ②No restriction is applied on sex, race, condition or course of participants. ③Case-control studies.

Information sources: A comprehensive literature search will be conducted in PubMed, Embase, Cochrane Library, Web of Science, SinoMed, China National Knowledge Infrastructure(CNKI), Wanfang Data, CBM and VIP Data, up to February 2022.

Main outcome(s): Pre-post *Helicobacter pylori* infection rate, response rate of treatment.

Quality assessment / Risk of bias analysis: The Cochrane Collaboration's tool for

assessing risk of bias in randomized trials will be used independently by two investigators. Any issues or disagreements will be resolved by discussions with a third investigator.

Strategy of data synthesis: The meta analysis was performed with RevMan software (Review Manager (RevMan) [Software]. Version 5.4.1, The Cochrane Collaboration, 2020). OR(odds ratio) for fixed effects models will be used. Between study heterogeneity will be assessed using the I² statistics. According to the Cochrane handbook, the I² will be considered non-important(60%). Publication bias will be assessed by a funnel plot and quantified by the Egger method. Newcastle-Ottawa-Scale(NOS) will be used for assessing risk of bias of individual studies.

Subgroup analysis: If we get enough data, we will conduct subgroup analysis to see if different factors could influence the results.

Sensitivity analysis: We will conduct sensitivity analyses based on study quality.

Country(ies) involved: China.

Keywords: Henoch-Schonlein purpura, children, *Helicobacter pylori* infection, case-control studies, systematic review

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