INPLASY PROTOCOL

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Review Stage at time of this submission: **The review has not yet started**

Conflicts of interest: **None.**

Impact of cuff-assisted colonoscopy for adenoma detection: a protocol of systematic review and meta-analysis

Li, Q[1]; Gao, HD[2]; Liu, CC[3]; Zhang, H[4]; Li, XH[5]; Wu, J[6]; Zhang, XK[7].

Review question / Objective: **Can cuff-assisted colonoscopy (CAC) be utilized for the detection of adenoma (DA)?**
Condition being studied: **Adenoma detection; cuff-assisted colonoscopy.**
Information sources: **Electronic searches The following electronic online databases will be searched from MEDLINE, EMBASE, Cochrane Library, PsycINFO, Web of Science, Chinese Biomedical Literature Database, and China National Knowledge Infrastructure from their inceptions to present. We will not apply any language and publication status limitations to the above electronic databases. All consider case-controlled studies (CCSs) that focusing on exploring the impacts of CAC for DA will be considered. Other resources We will also search grey records, such as dissertations, conference abstracts, and reference list of relevant reviews.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 April 2020 and was last updated on 08 April 2020 (registration number INPLASY202040042).

INTRODUCTION

Review question / Objective: **Can cuff-assisted colonoscopy (CAC) be utilized for the detection of adenoma (DA)?**

Condition being studied: **Adenoma detection; cuff-assisted colonoscopy.**

METHODS

Participant or population: **Any patients who were diagnosed with histological-proven**

adenoma will be included in this study without restrictions of race, age, sex, and country.

Intervention: All participants received CAC detection for DA.

Comparator: All participants underwent detection of histological-proven adenoma, but not CAC.

Study designs to be included: We will include case-controlled studies (CCSs) reporting the impacts of CAC for DA.

Eligibility criteria: We will include CCSs that compare the detection of CAC vs. histological-proven adenoma for DA.

Information sources: Electronic searches The following electronic online databases will be searched from MEDLINE, EMBASE, Cochrane Library, PsycINFO, Web of Science, Chinese Biomedical Literature Database, and China National Knowledge Infrastructure from their inceptions to present. We will not apply any language and publication status limitations to the above electronic databases. All consider case-controlled studies (CCSs) that focusing on exploring the impacts of CAC for DA will be considered. Other resources We will also search grey records, such as dissertations, conference abstracts, and reference list of relevant reviews.

Main outcome(s): The primary outcome measurements are sensitivity and specificity. The secondary outcome measurements are diagnostic odds ratio, adenoma detection rate, the number of diagnosed adenomas, polyp detection rate, and cecal intubation rate.

Data management: Two authors will independently extract data from each included study using predefined data collection sheet. The extracted information includes first author, publication time, study characteristics, patient characteristics, study design, study setting, study methods, details of indexes, outcome measurements, and any other relevant information. Any disagreements will be solved by a third author through discussion. If relevant essential information can not be retrieved from the included articles, primary authors of the manuscript will be contacted to inquire them.

Quality assessment / Risk of bias analysis: To determine the methodological quality for the included studies, Quality Assessment of Diagnostic Accuracy Studies tool will be used for CCSs. Two authors will independently evaluate the methodological quality for all included study. Any disagreements regarding study methodological quality assessment between two authors will be resolved by consultation with a third author.

Strategy of data synthesis: RevMan V.5.3 software will be used for data analysis in this study. All outcome data will be calculated as descriptive statistics or risk ratio and 95% confidence intervals. Whenever necessary, we will also perform a descriptive forest plot and a summary receiver operating characteristic. The degree of heterogeneity among eligible studies will be identified using I2 statistic. I2 ≤ 50% means low heterogeneity, while I2 >50% means significant heterogeneity. If there is low heterogeneity, we will use a fixed-effects model and carry out meta-analysis. If there is significant heterogeneity, we will use a random-effect model, and will perform subgroup analysis. If we can still detect substantial heterogeneity after subgroup analysis, we will conduct narrative summary to synthesize outcome data.

Subgroup analysis: We will perform subgroup analysis based on the different study or patient characteristics, index types, and outcomes.

Sensibility analysis: We will carry out sensitivity analysis to check robustness of pooled results by removing the low quality studies.

Country(ies) involved: China.

Keywords: Adenoma detection; cuff-assisted colonoscopy; impact.