INPLASY PROTOCOL

To cite: Sun et al. Canaloplasty for the treatment of primary open-angle glaucoma: A protocol for systematic review and meta-analysis. Inplasy protocol 202040119. doi: 10.37766/inplasy2020.4.0119

Received: 19 April 2020

Published: 19 April 2020

Corresponding author:
Hong-wei Liu

hongwei200411@163.com

Author Affiliation:
Jiamusi University School of Basic Medical Science

Support: **SRPHLJPHHC (2019-327)**

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

Conflicts of interest: **No.**

Canaloplasty for the treatment of primary open-angle glaucoma: A protocol for systematic review and meta-analysis

Sun, P[1]; Liu, HW[2]; Zhou, PP[3]; Meng, Y[4].

Review question / Objective: **Can canaloplasty effectively treat open-angle glaucoma (POAG)?**
Condition being studied: **Canaloplasty and primary open-angle glaucoma.**
Information sources: **Electronic databases - The electronic databases (MEDLINE, EMBASE, Cochrane Library, Web of Science, Cumulative Index to Nursing and Allied Health Literature, Allied and Complementary Medicine Database, Chinese Biomedical Literature Database, and China National Knowledge Infrastructure) will be sought from the construction to the March 1, 2020. There are no limitations to the language and publication status. We will only consider RCTs for inclusion. The complete search strategy of MEDLINE is created. Similar search strategies will also be built for other electronic databases. Other resources - We will also examine other resources, such as dissertations, conference abstracts, clinical trial registry, and reference lists of included studies.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 April 2020 and was last updated on 19 April 2020 (registration number INPLASY202040119).

INTRODUCTION

Review question / Objective: **Can canaloplasty effectively treat open-angle glaucoma (POAG)?**

Condition being studied: **Canaloplasty and primary open-angle glaucoma.**

METHODS

Participant or population: **Patients who were diagnosed as POAG will be included, irrespective by region, nation, sex, gender, and duration and severity of POAG.**

Intervention: **As for experimental interventions, all patients received canaloplasty as their treatment.**

Comparator: As for control interventions, participants were treated without restrictions related to their therapies, except canaloplasty.

Study designs to be included: Only randomized controlled trials (RCTs) of canaloplasty for the treatment of POAG will be included for inclusion.

Eligibility criteria: Only RCTs of canaloplasty for the treatment of POAG will be included for inclusion. Non-RCTs, quasi-RCTs, case studies, and uncontrolled trials will be excluded.

Information sources: Electronic databases - The electronic databases (MEDLINE, EMBASE, Cochrane Library, Web of Science, Cumulative Index to Nursing and Allied Health Literature, Allied and Complementary Medicine Database, Chinese Biomedical Literature Database, and China National Knowledge Infrastructure) will be sought from the construction to the March 1, 2020. There are no limitations to the language and publication status. We will only consider RCTs for inclusion. The complete search strategy of MEDLINE is created. Similar search strategies will also be built for other electronic databases. Other resources - We will also examine other resources, such as dissertations, conference abstracts, clinical trial registry, and reference lists of included studies.

Main outcome(s): Primary outcomes include mean intraocular pressure, and change in best corrected visual acuity. Secondary outcomes consist of contrast sensitivity, bioelectric activity of the retina, rate of progression of glaucoma, blood flow to the eye and optic nerve head, quality of life, and incidence of adverse events.

Data management: Two reviewers will independently extract data from eligible articles by pre-designed standard data extraction form. Any disagreements between two reviewers will be solved by another experienced reviewer through consultation. The form consists of title, first author, publication time, country, race, sex, age, sample size, eligibility criteria, diagnostic criteria, trial design, intervention details, control specifics, outcomes, safety, and other related information.

Quality assessment / Risk of bias analysis: Two reviewers will independently evaluate the study quality for each article using Cochrane Collaboration's bias risk assessment tool. Each article will be assessed through seven domains, and each one is further divided into low, unclear and high risk of bias. Any confusion will be answered by consensus with another experienced reviewer.

Strategy of data synthesis: Data analysis will be performed using RevMan 5.3 software. As for continuous data, we estimate it as weighted mean difference or standardized mean difference and 95% confidence intervals (CIs). As for dichotomous data, we will express it as risk ratio and 95% CIs. Heterogeneity across articles will be detected using Chi-square test and I^2 test. When $P \geq 0.1$ or/and $I^2 \leq 50\%$, minor heterogeneity is considered, and a fixed-effect model will be used. Otherwise, when P50%, obvious heterogeneity is regarded, and a random-effect model will be utilized. If possible, we will carry out a meta-analysis based on the similar characteristics of study and patient, types of interventions and controls, and outcomes. If considerable heterogeneity is found, we will perform subgroup analysis and sensitivity analysis to explore possible sources of such heterogeneity.

Subgroup analysis: If necessary, a subgroup analysis will be carried out according to the different study characteristics, study quality, treatments, and controls.

Sensibility analysis: We will employ a sensitivity analysis to test the robustness of results by removing low quality of studies.

Country(ies) involved: China.

Keywords: Canaloplasty; primary open-angle glaucoma; efficacy; safety.