

# INPLASY PROTOCOL

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**Conflicts of interest:**  
None.

## Meta-analysis of the association between new onset hypertension and renal urolithiasis after extracorporeal shock wave lithotripsy therapy

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**Review question / Objective:** Our aim is to explore the association between new onset hypertension and patients with nephrolithiasis underwent extracorporeal shock wave lithotripsy.

**Condition being studied:** New onset hypertension in patients with nephrolithiasis underwent extracorporeal shock wave lithotripsy.

**Information sources:** PubMed, EMBASE, and the Cochrane Central Search Library were used to systematically review the published literatures.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 September 2020 and was last updated on 10 September 2020 (registration number INPLASY202090045).

### INTRODUCTION

**Review question / Objective:** Our aim is to explore the association between new onset hypertension and patients with nephrolithiasis underwent extracorporeal shock wave lithotripsy.

**Rationale:** Due to the different anatomical position of nephrolithiasis and ureteral urolithiasis, patients with nephrolithiasis after SWL therapy are more likely to develop hypertension, exposing kidney to the damage of wave. Included studies of the previous meta-analysis comprised the entire upper urinary urolithiasis after SWL

treatment (3), in which exist confounding factors. Therefore, the present meta-analysis was performed to explore the relationship between new onset hypertension and patients with nephrolithiasis underwent extracorporeal shock wave lithotripsy.

**Condition being studied:** New onset hypertension in patients with nephrolithiasis underwent extracorporeal shock wave lithotripsy.

## METHODS

**Search strategy:** The search terms Extracorporeal Shock Wave Lithotripsy, SWL combined with hypertension, and blood pressure were used to search for relevant literatures in the PubMed, EMBASE, and the Cochrane Central Search Library.

**Participant or population:** Patients with nephrolithiasis.

**Intervention:** Extracorporeal shock wave lithotripsy.

**Comparator:** Patients with nephrolithiasis not underwent extracorporeal shock wave lithotripsy.

**Study designs to be included:** Cohort.

**Eligibility criteria:** The included criteria of relevant literatures are as follows: (1) cohort or case-control study to evaluate the relationship between new onset hypertension and nephrolithiasis after SWL therapy; (2) direct or indirect data could be extracted in both SWL group and control group; (3) paper written in English published between 1980 and August 2020; (4) hazard ratio, relative risk, or rate ratio were reported in the study or there are sufficient data to compute them.

**Information sources:** PubMed, EMBASE, and the Cochrane Central Search Library were used to systematically review the published literatures.

**Main outcome(s):** New onset hypertension.

**Quality assessment / Risk of bias analysis:** Quality assessment will be performed by the authors based on 1) clear description of data or could calculate them; 2) representativeness of patient population, and 3) completeness of data reporting.

**Strategy of data synthesis:** i: sample size and general characteristics; ii: length of follow-up; iii: main outcome.

**Subgroup analysis:** Possibly between age, sex, and the length of follow-up.

**Sensibility analysis:** The extended Egger's test may be used to assess the risk of bias among the studies.

**Language:** English.

**Country(ies) involved:** China.

**Keywords:** Hypertension; Extracorporeal shock wave lithotripsy; Nephrolithiasis; Meta-analysis.

### Contributions of each author:

Author 1 - Qiao Wu - Writing the manuscript and collecting the articles and data.

Author 2 - Rui Liang - Collecting the articles and data.

Author 3 - Yi Huang - Collecting and analyzing the data.

Author 4 - Chunlin Tan - Analyzing the data.

Author 5 - Tao Wu - Revising and approving the final manuscript.

Author 6 - Tielong Tang - Revising and approving the final manuscript.