

# INPLASY PROTOCOL

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**Corresponding author:**  
Ao Qian

1627784911@qq.com

**Author Affiliation:**  
First Affiliated Hospital of  
Chongqing Medical University.

**Support:** None.

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

**Conflicts of interest:**  
None declared.

## Risk factors of recurrence in Rathke cleft cyst: a systematic review and meta analysis

Qian, A<sup>1</sup>; Zhang, X<sup>2</sup>; Huo, G<sup>3</sup>; Yu, J<sup>4</sup>; Wang, X<sup>5</sup>.

**Review question / Objective:** Recurrence is not uncommon in Rathke cleft cyst (RCC) in postoperative follow-up period. Due to different study protocols, follow-up time and size of cohorts, various associated factors were obtained, and these deserves to be reviewed systematically.

**Condition being studied:** The recurrence of Rathke cleft cyst has been depicted in many studies, and associated factors were also assessed in some of these studies. However, controversy still existed in identifying factors of recurrence.

**Information sources:** Medline, Embase, and Cochrane databases are searched, and the reference lists of included studies are also hand-searched.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 October 2021 and was last updated on 19 October 2021 (registration number INPLASY2021100070).

### INTRODUCTION

**Review question / Objective:** Recurrence is not uncommon in Rathke cleft cyst (RCC) in postoperative follow-up period. Due to different study protocols, follow-up time and size of cohorts, various associated factors were obtained, and these deserves to be reviewed systematically.

**Rationale:** Electronic databases are searched to enroll studies that the associated factors of recurrence were assessed.

**Condition being studied:** The recurrence of Rathke cleft cyst has been depicted in many studies, and associated factors were also assessed in some of these studies. However, controversy still existed in identifying factors of recurrence.

### METHODS

**Search strategy: Terms:** ("Recurrence"[Mesh]) OR (recurrent) OR (relapse) OR (recurrence) OR (re-accumulation)) AND ((rathke's) OR (rathke)

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**OR (Rathke's Cleft Cyst)** Electronic databases: Medline, Embase, and Cochrane databases.

**Participant or population:** Patients have been diagnosed with Rathke cleft cyst.

**Intervention:** Different factors that patients with Rathke cleft cyst possessed.

**Comparator:** Whether patients suffered recurrence of Rathke cleft cyst under different factors.

**Study designs to be included:** Studies are included that the associated factors of recurrence were assessed.

**Eligibility criteria:** The studies that reported factors associated with recurrence in RCC were included for review and analysis.

**Information sources:** Medline, Embase, and Cochrane databases are searched, and the reference lists of included studies are also hand-searched.

**Main outcome(s):** This review may find the accurate factors associated with recurrence of Rathke cleft cyst, promote the awareness of the characteristics with an increased risk of recurrence in RCC, and improve treatment and follow-up protocols for patients with Rathke cleft cyst.

**Quality assessment / Risk of bias analysis:** We assess the quality of included studies using the modified form of the Newcastle-Ottawa Scale for cohort studies

**Strategy of data synthesis:** Meta analysis is used to synthesize the data. Data is expressed with odds ratio (OR) and its 95% CI. I<sup>2</sup> statistic is used to determine the heterogeneity, and further assessed for consistency. If I<sup>2</sup> statistic is >50%, the random-effects model is adopted to generate pooled effect. On the other hand, the fixed-effect model is selected when I<sup>2</sup> statistic is ≤50%. The funnel plot and Egger's test are used to evaluate the publication bias.

**Subgroup analysis:** Subgroup analyses of recurrent incidence in RCC will be conducted according to publication year (before or after 2010), type of surgery (TSS or TSS/TC), and mean age of patients (more or less than 40 years).

**Sensitivity analysis:** Sensitivity analysis will be addressed by the leave-one-out approach.

**Language:** Only English studies are enrolled.

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

**Keywords:** Rathke cleft cyst; systematic review; meta-analysis; recurrence.

**Contributions of each author:**

Author 1 - Ao Qian - The author drafted the manuscript and search the data.

Email: 1627784911@qq.com

Author 2 - Xin Zhang - The author searches the data, selects eligible studies, and extracts data.

Email: 915145825@qq.com

Author 3 - Gang Huo - The author performs quality assessment and provide statistical expertise.

Email: xiaomin198171@tom.com

Author 4 - Jiaojiao Yu - The author searches the data, selects eligible studies, and extracts data.

Email: 2028589892@qq.com

Author 5 - Xiaoshu Wang - The author performs the quality assessment and supervises this review.

Email: 39678780@qq.com