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Efficacy and Safety of Preoperative Embolization in the Surgical Management of Intracranial Hemangioblastoma: An Integrated Analysis of a Single-Center Retrospective Study and Meta-Analysis

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 16 January 2026 and was last updated on 16 January 2026.

INTRODUCTION

Review question / Objective To systematically evaluate the impact of preoperative embolization on surgical outcomes and patient prognosis by integrating our institutional data with available literature evidence.

Condition being studied Intracranial hemangioblastoma (IHB) are highly vascularized benign tumors, with surgical resection as the primary treatment. Preoperative embolization is often used as an adjunct to reduce intraoperative bleeding; however, its definitive clinical net benefit and associated risks remain unclear, as existing evidence presents conflicting conclusions.

METHODS

Search strategy "intracranial hemangioblastoma," "preoperative embolization," and "surgery."

Participant or population IHB.

Intervention Preoperative embolization.

Comparator Direct surgery.

Study designs to be included Cohort or case-control studies.

Eligibility criteria Observational studies (cohort or case-control studies) comparing outcomes between preoperative embolization and direct surgery in patients with IHB were eligible for inclusion.

Information sources PubMed, Embase, the Cochrane Library, and Web of Science.

Main outcome(s) Intraoperative parameters, including operation time and blood loss, while

clinical outcomes including good recovery and complications.

Quality assessment / Risk of bias analysis Newcastle-Ottawa Scale.

Strategy of data synthesis All pooled analyses were performed using a random-effectsmodel.

Subgroup analysis NA.

Sensitivity analysis NA.

Language restriction No restriction.

Country(ies) involved China.

Keywords Intracranial hemangioblastoma; preoperative embolization; neurosurgery; retrospective; meta-analysis.

Contributions of each author
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