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# Current treatment strategy of isolated abdominal aortic dissection:A Systematic Review and Meta Analysis

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**ADMINISTRATIVE INFORMATION**

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**Review Stage at time of this submission -** Data extraction.

**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 07 March 2024 and was last updated on 07 March 2024.

## INTRODUCTION

**Review question / Objective** The aim of this study was to evaluate the safety, applicability and outcomes of the endovascular repair, open surgery and conservative treatment for patients with isolated abdominal aortic dissection(IAAD) by performing a systematic review.

**Condition being studied** Aortic dissection occurs when layers of the aortic wall separate as a result of extraluminal entry of blood through an intimal tear.This pathological process usually involves the thoracic aorta,isolated abdominal aortic dissection(IAAD) with primary entry site in the abdominal aorta accounts for 1% to 4% of all aortic dissection.According to the causes of the disease, it can be divided into spontaneous, (77%-89%) , Traumatic (17%) and iatrogenic injuries accounted (6%-11%)[1].It also can be divided into type subrenal, pararenal and suprarenal according to the location of the entry site[2].Patients with IAAD can be asymptomatic.Common symptoms may include:abdominal,back and chest pain.

## METHODS

**Search strategy** (Abdominal aortic dissection[Title/Abstract]) AND ((treatment[Title/Abstract]) OR (management[Title/Abstract])).

**Participant or population** Studies that fulfilled any one of the following criteria were excluded: 1) animal experiments,case reports with a sample size of less than 5,comments, editorials, review articles and letters 2)no clear description of the origin of the dissection 3)no original data reported.According to these criteria,21 relevant

articles were identified,containing original data on 657 patients.

**Intervention** Endovascular repair.

**Comparator** Open surgery and conservative treatment.

**Study designs to be included** A meta-analysis of the existing literature was conducted through retrospective study.

**Eligibility criteria** Studies that fulfilled any one of the following criteria were excluded: 1) animal experiments,case reports with a sample size of less than 5,comments, editorials, review articles and letters 2)no clear description of the origin of the dissection 3)no original data reported.

**Information sources** PubMed,Embase,Web of Science,Cochrane library,CNKI and CBMdisc databases were searched for the management of IAAD between 1995 and 2022.

**Main outcome(s)** We advocate an aggressive surgical strategy for IAAD if the patient meets the indications. EVAR is an effective method with high technical success rate, low complication rate, and good prognosis.

**Quality assessment / Risk of bias analysis** The inclusion criteria for this review consisted of published original articles reporting more than 5 patients.The basic characteristics of the patients, clinical outcomes of complications,30-Day mortality,endoleak,reintervention rate were stated.

**Strategy of data synthesis** The statistical analyses were carried out using STATA software.The design, conduct, and reporting of this study were guided by the Meta-Analyses of Observational Studies (MOOSE) statement guidelines.Separate meta-analyses were performed on five major endpoints,namely,incidence of adverse events after surgery,endoleak, reintervention after endovascular treatment,true lumen index and abdominal aorta maximum diameter.

**Subgroup analysis** Not available.

**Sensitivity analysis** The meta-analyses were performed using both random effects models and fixed effects models.Q statistics and a formal test of heterogeneity were calculated.The I2statistic was used to quantify the heterogeneity across the studies, with an I275% representing a low, moderate, and high degree of heterogeneity, respectively[6].The potential publication bias was appraised primarily by a funnel plot.

**Country(ies) involved** China.

**Keywords** isolated abdominal aortic dissection, endovascular repair, open surgery,conservative treatment.

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