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Comparative Safety of Four Targeted Biologics in IgA Nephropathy: A Network Meta-Analysis

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ADMINISTRATIVE INFORMATION

Support - Henan Provincial Health Commission.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202570065

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 July 2025 and was last updated on 17 July 2025.

INTRODUCTION

Review question / Objective This study aims to analyze the efficacy and safety of four biological agents in immunoglobulin A (IgA) nephropathy, with randomized controlled trial (RCT) adopted as the research method.

Condition being studied This study aims to systematically analyze the efficacy and safety profiles of four distinct biological agents in the treatment of immunoglobulin A (IgA) nephropathy, a common glomerular disease characterized by IgA deposition in renal mesangium. By evaluating clinical indicators such as proteinuria reduction, renal function stability, and incidence of adverse reactions, it seeks to provide evidence-based references for optimizing therapeutic regimens in IgA nephropathy patients.

METHODS

Participant or population Adults diagnosed with IgA nephropathy by renal biopsy, who are treated with biological agents such as complement blockers (Iptacopan), BAFF inhibitors (Telitacicept), anti-CD20 monoclonal antibodies (Rituximab), and mucosal modulators (Nefecon), with randomized controlled trial (RCT) studies selected for analysis.

Intervention Treatment with biological agents, such as complement blockers (Iptacopan), BAFF inhibitors (Telitacicept), anti-CD20 monoclonal antibodies (Rituximab), and mucosal modulators (Nefecon), is used as the intervention.

Comparator Conventional immunotherapy and placebo will be used as control measures.

Study designs to be included Randomized controlled trials (RCTs).

Eligibility criteria Population: Adults with IgA nephropathy confirmed by biopsy (aged ≥ 18 years)
Intervention: Complement blockers (Iptacopan), BAFF inhibitors (Telitacicept), anti-CD20

monoclonal antibodies (Rituximab), mucosal modulators (Nefecon)
Comparator: Conventional immunotherapy, placebo
Outcomes:
Primary outcome: Severe infection
Secondary outcomes: Tumor incidence rate, annual decline rate of eGFR
Study design: Randomized controlled trials (RCTs).

Information sources PubMed, Cochrane Library, Embase, Web of Science, Scopus, etc.

Main outcome(s) Primary outcome: Severe infection
Secondary outcomes: Tumor incidence rate, annual decline rate of eGFR.

Quality assessment / Risk of bias analysis Cochrane Risk ofBias.

Strategy of data synthesis STATA software will be selected for data analysis. Heterogeneity will be considered present when $I^2 > 50\%$ and $P < 0.1$. If heterogeneity exists, a random-effects model will be used to pool effect sizes; if there is no heterogeneity, a fixed-effects model will be chosen for pooling effect sizes.

Subgroup analysis By region , By dose.

Sensitivity analysis Sensitivity analysis will be performed using STATA software. The sensitivity of a study will be reflected by observing the changes in effect size after excluding that particular study.

Language restriction English.

Country(ies) involved China.

Keywords IgA nephropathy, efficacy, biological agents.

Contributions of each author
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