

Safety and efficacy of mesenchymal stem cell therapy in children with autism spectrum disorder: Systematic Review

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Background

Cell therapy is a therapeutic intervention that could offer benefits in patients with autism spectrum disorder (ASD) due to its genetic and immunological etiology. Stem cell therapy has been shown to significantly reduce disease severity in patients with neurological disorders.

Aim

To evaluate the safety and efficacy of mesenchymal stem cell (MSC)-based therapies for treatment of children with ASD, without comorbidities.

Methods

Systematic review in indexed databases, clinical trial registries, and gray literature. The search strategy was composed of free terms and exploited controlled vocabulary. The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement. Two independent reviewers performed the screening and selection of references. We perform bias evaluation and a qualitative synthesis of the selected studies.

Results

We identified 452 studies, which after screening and selection according to selection criteria and quality evaluation, two were included in this review. MSC therapy showed significant improvements in decreasing ASD severity and no serious adverse events occurred in any of the target populations; even though they used different cell sources, doses, and number of applications. See PRISMA flowchart.

Conclusion

Evidence suggests that the use of MSC therapy in children with ASD without comorbidities is safe and possibly useful in clinical practice. However, more high-quality clinical trials are required.



Figure 1. PRISMA flowchart of studies search, screening, and selection.

References

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