

Does Adjunctive Monoclonal Antibody Therapy Compared to Standard Antipsychotic Treatment Only or with Placebo Reduces Psychotic Symptoms, Cognitive Symptoms and Quality of Life in Adult Patients with Schizophrenia: A Meta Review

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Abstract:

Introduction: Schizophrenia remains a difficult psychiatric illness to manage, and cure is now a long distant dream. Several studies have studied the use of monoclonal antibodies as an add on therapy since inflammatory processes are involved in its etiology. This systematic review aims to synthesize the amount of evidence with regard to monoclonal antibody therapy enhancing psychotic symptomatology, cognitive functioning, and overall quality of life in adult patients diagnosed with schizophrenia.

Materials and Methods: To perform this study, an extensive literature search through PubMed and other related databases was done. Randomized controlled trials that have compared the effectiveness of the addition of monoclonal antibody therapy to standard antipsychotic medication in adults with schizophrenia were reviewed. All included studies were evaluated for risk of bias using the revised version of Cochrane Risk of Bias tool (ROB2). Outcomes were expressed using odds ratios and Random Effect Models were used to calculate the effect size. In the Meta Analysis, the findings were presented in Forest plots, Funnel Plots and Kaplan Myer curves.

Results: As a result, three significant works were found. A phase II trial in 2024 showed that canakinumab, an anti-IL-1 β antibody reduced the markers of inflammation and had reduction in positive symptoms in schizophrenia.

The variation in the C accurately predicted improvement in PANSS Positive Symptom in patients. Other trials include the PIMS trial currently assessing the efficacy of tocilizumab, an IL-6 receptor antibody in the first-episode of psychosis. In a way it is similar to a meta-analysis of 7 studies involving Tocilizumab on residual symptoms in schizophrenia conducted in 2018 revealing no significant treatment benefit on behavioral outcomes.

Discussion: According to the findings of the study, monoclonal antibody therapy may be a valuable intervention of schizophrenia patients having higher levels of inflammation for slashing out positive symptoms. However, outcome differs with the particular antibody used and the population under study

and the stage of the disease. However, weak outcomes in some researches show that the immune modulation in schizophrenia is very sensitive and requires careful selection of the patients.

Conclusion: Besides, to date, the results of the application of monoclonal antibody therapy in schizophrenia have not been quite clear. More studies have to be conducted in order to better understand the possible ways of applying this therapy – who could benefit from it, when the treatment should be introduced and how it might be combined with other medications based on antipsychotic drugs. It may well be that more individualized treatments tailored to the patient's inflammatory profiles can yield the highest therapeutic impact.

Keywords:

Monoclonal antibodies, immunotherapy, psychotic symptoms, cognition in schizophrenia, canakinumab, tocilizumab.