INPLASY

COVID-19-mediated neurologic symptoms of syndromes such as ataxia and myoclonus: a Meta-Analysis of Case Series

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ADMINISTRATIVE INFORMATION

INTRODUCTION

Review question / Objective Since the epidemic of neocoronary pneumonia, there have been numerous accompanying neurologic symptoms, and the relationship between the two is intricate and many mysteries still exist. The aim of this study was to systematically review clinical studies on the association between neocoronary pneumonia and neurologic syndromes such as ataxia and myoclonus as a reference for clinical work.

Rationale Searches were conducted for relevant data sources using appropriate search terms. Studies that met the criteria for temporal correlation of neurologic syndromes such as ataxia and myoclonus with C. neoformans or its vaccine were included, and clinical data were collected and analyzed using the software.

Condition being studied Since the epidemic of neocoronary pneumonia, there have been numerous accompanying neurologic symptoms and the relationship between the two is intricate and many mysteries remain. The aim of this study was to systematically review clinical studies on the association of neocoronavirus pneumonia with neurologic syndromes such as ataxia and myoclonus. Despite the existence of numerous peer-reviewed case reports and case series of neocoronavirus pneumonia associated with syndromes such as ataxia and myoclonus, there are still many unknowns regarding the correlation of the two, and the complete clinical characteristics of neocoronavirus-associated ataxia and myoclonus are still incomplete. The complete clinical characterization of neocoronavirus-associated ataxia and myoclonus syndromes is still incomplete. Since the onset of neocoronavirus, more and more cases have been reported, and there is a definite need for a clinically relevant diagnosis and treatment. We have analyzed the clinical data collected from patients with published cases to inform our clinical work.

METHODS

Search strategy "Ataxia" and "covid-19", "myoclonus" and "covid-19",databases:pubmed、embase、Web of Science.

Participant or population Patients with neurologic symptoms such as ataxia and myoclonus after infection with the new coronavirus.

Intervention Clinical features, laboratory test results, examination findings, therapeutic options, clinical outcome of the disease and its survival time.

Comparator Comparison of patients' clinical characteristics, laboratory test results, examination findings, treatment regimens, time of onset, clinical outcomes, and their survival times.

Study designs to be included Conclusions were drawn by collecting the clinical characteristics of the patients, laboratory test results, examination results, treatment regimens, time of onset, clinical outcomes and their survival times, which were organized in an excel spreadsheet and imported into the SPSS analysis software for data analysis.

Eligibility criteria Inclusion criteria:1. patients with serology suggestive of neocoronavirus infection2. patients with clinical symptoms such as ataxia and myoclonus after neocoronavirus infection3. cases with complete clinical dataExclusion criteria:1. large retrospective or prospective research articles2. cases with incomplete clinical data.

Information sources PubMed, Cochrane, Medline, BioMed Central, Embase, Scopusa nd Web of Science.

Main outcome(s) Data were recorded and coded via Microsoft Excel for transfer to IBM SPSS for statistical analysis. Data elements included demographic information, laboratory test results, examination findings, patient symptoms, treatments, and clinical outcomes. Invasive mechanical ventilation performed during hospitalization was included, and clinical outcomes were assessed based on disease severity (level of care in the intensive care unit (ICU), dependence on mechanical ventilation (MV)), time to onset of symptoms, treatment regimens used, clinical outcomes, follow-up results, and mortality.

Additional outcome(s) Influence of general clinical features on the different symptoms of the disease, respiratory symptoms in patients with morbidity, and comparison of the therapeutic effects of the less treated groups.

Data management Data were recorded and coded via Microsoft Excel for transfer to IBM SPSS for statistical analysis.

Quality assessment / Risk of bias analysis Assessed using the Newcastle-Ottawa Scale as a criterion.

Strategy of data synthesis Statistical analysis was performed using IBM SPSS Statistics Software for Windows version 28.0 (IBM Corp, Armonk, NY, USA). Data points included frequencies and descriptive statistics such as mean, standard deviation (SD), and range. The chi-square test was used to analyze associations in the cross-tabulations. $p < 0.05$ was considered statistically significant.

Subgroup analysis Subgroups were analyzed by age(<35,≥35), gender（male,female）, symptoms, admission to a care unit, treatment regimen, and clinical outcomes.

Sensitivity analysis This study was a case data analysis and did not require a sensitivity analysis.

Language restriction No.

Country(ies) involved China.

Keywords SARS-CoV-2; COVID-19;meta-analysis; neurological complications; myoclonus; cerebellar ataxia.

Dissemination plans No.

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