A pilot randomized controlled trial of major ozone autohemotherapy for patients with post-acute sequelae of COVID-19

Ke Hu[1], Yang He[1], Xu Liu[1], Shiqian Zha[1], Yixuan Wang[1], Jingyi Zhang[1], and Qingfeng Zhang[1]

[1]Wuhan University Renmin Hospital

April 20, 2024

Abstract

This prospective, randomized controlled trial assessed the therapeutic effects of major ozone autohemotherapy (O $_3$-MAH) in patients with post-acute sequelae of COVID-19 (PASC). Seventy-three eligible participants were randomly assigned to an O $_3$-MAH plus conventional therapy group (n=35) or an conventional therapy alone group (n=38). Symptom score, pulmonary function, 6-minute walk distance (6MWD), and hematological, biochemical, and immunological parameters were evaluated before and after the interventions. Both groups demonstrated improvements in various parameters post-intervention, but efficacy was greater in the O $_3$-MAH group than the conventional treatment group; with intervention effectiveness defined as a [?]50% reduction in symptom score, 25 of 35 patients (71%) responded to O $_3$-MAH, while 17/38 patients (45%) responded to conventional treatment alone (P=0.0325). Significant improvements in symptom scores (P=0.0478), tidal volume (P=0.0374), predicted 6MWD (P=0.0032), and coagulation and inflammatory indicators were noted in the O $_3$-MAH group compared with the conventional treatment group. O $_3$-MAH was more likely to be effective in patients with elevated CRP levels. Furthermore, O $_3$-MAH markedly improved cellular immunity, and this improvement became more pronounced with extended treatment duration. In summary, combining O $_3$-MAH with conventional treatment was more effective than conventional therapy alone in improving symptoms, pulmonary function, inflammation, coagulation, and cellular immunity in patients with PASC. Further research is now warranted to validate these findings and establish the longer-term benefits of O $_3$-MAH for PASC.

Hosted file

1-Manuscript.docx available at https://authorea.com/users/343057/articles/857056-a-pilot-randomized-controlled-trial-of-major-ozone-autohemotherapy-for-patients-with-post-acute-sequelae-of-covid-19

Hosted file

5-Table 1.docx available at https://authorea.com/users/343057/articles/857056-a-pilot-randomized-controlled-trial-of-major-ozone-autohemotherapy-for-patients-with-post-acute-sequelae-of-covid-19

Hosted file

5-Table 2.docx available at https://authorea.com/users/343057/articles/857056-a-pilot-randomized-controlled-trial-of-major-ozone-autohemotherapy-for-patients-with-post-acute-sequelae-of-covid-19

Hosted file

5-Table 3.docx available at https://authorea.com/users/343057/articles/857056-a-pilot-randomized-controlled-trial-of-major-ozone-autohemotherapy-for-patients-with-post-acute-sequelae-of-covid-19