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REPORTED SYMPTOMS UP TO ONE YEAR AFTER A SINGLE HIGH-DOSE OF VITAMIN D_3 IN DISCHARGED PATIENTS WITH MODERATE TO SEVERE COVID-19

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BACKGROUND

Emerging evidence has suggested extrapulmonary manifestations in the postviral stage of coronavirus disease 2019 (COVID-19) with a broad spectrum of symptoms that persist or arise after the acute-viral phase. Despite the acute and chronic role of vitamin D, the effect of vitamin D_3 administration on persistent or new symptoms related to long-term COVID-19 remains unknown. The present study aimed to investigate the reported persistent or new symptoms up to one year after a single dose of 200,000 IU of vitamin D_3 in discharged patients previously diagnosed with moderate to severe COVID-19.

METHODS

This is a post-hoc, exploratory analysis from a multicenter, double-blind, placebocontrolled, randomized clinical trial from two centers in Sao Paulo, Brazil, registered in ClinicalTrials.gov. Discharged patients were followed for up to 1 year and assessed by telephone interview at 6 and 12 months. The primary and prespecified secondary outcomes were previously published. The post-hoc exploratory secondary outcomes reported herein are the persistent or new symptoms and quality of life at post-viral stage of COVID-19. Generalized estimating equations (GEEs) for repeated measures with Bonferroni's adjustment were performed for testing outcomes. Continuous variables were analyzed by independent t test. Percentages were analyzed by chi-square (χ^2) or Fisher's exact test. Fever was handled by the McNemar test in comparisons within- and between-groups. Kaplan–Meier (KM) estimate curves for time (months) manifesting symptoms related to COVID-19 was adopted using the Log-rank, Breslow, and Tarone–Ware. Statistical analyses were performed with IBM-SPSS software, version 20.0. The significance level was set at two-sided $p < 0.05$.

RESULTS

Between June 2, and August 27, 2020, 240 patients were randomized of which 144 were included in this study (the vitamin D_3 [n = 71] or placebo [n = 73] group). The mean (SD) age was 54.3 (13.1) years, body mass index (BMI) was 32.4 (6.5) kg/m², and 77 (53.5%) were male. After 6 and 12 months, no significant differences between the vitamin D_3 and placebo groups were observed for cough, fatigue, fever, myalgia, joint pain, runny nose, nasal congestion, sore throat ($p > 0.05$), nor for comorbidities (hypertension, diabetes, cardiovascular disease asthma, chronic obstructive pulmonary, chronic kidney disease) ($p > 0.05$),nor for quality of life, frequency of new or at least one symptom ($p > 0.05$), nor KM for time manifesting symptoms ($p > 0.05$).

CONCLUSION

The findings do not support the use of 200,000 IU of vitamin D_3 for the management of persistence or new symptoms, and quality of life reported by moderate to severe patients after hospitalization for COVID-19.

KEYWORDS

Long-term COVID-19, SARS-CoV-2, Persistent symptoms, Vitamin D, Quality of life.