

Zinc and Vitamin a Deficiency Predisposes to the Need for Intubation and Icu Admission in Patients With COVID-19. An Observational Study

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Research

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Abstract

Objective: To analyse whether the micronutrient deficit predicts a worse prognosis in patients infected by SARS-CoV-2 who developed the COVID-19 disease.

Methods: We carried out an observational and retrospective study with 120 patients admitted for COVID-19 in the ICU and in the Internal Medicine ward of a tertiary hospital. In the nutritional admission analysis of these patients, we analysed plasmatic levels of vitamins A, B6, C, D, E and zinc. In addition, different variables of interest were collected, such as the need for orotracheal intubation, hospital stay, mortality and multi-organ failure.

Results: One hundred and twenty patients were included. The independent variables associated with the need for ICU admission were low levels of zinc (standard error 0.566, 95% CI 0.086 to 0.790, $p = 0.017$), low levels of vitamin A (standard error 0.582, 95% CI 0.061 to 0.594, $p = 0.004$), age over 65 (standard error 0.018, 95% CI 0.917 to 0.985, $p = 0.005$) and male gender (standard error 0.458, 95% CI 1.004 to 6.040, $p = 0.049$). The only variable that was independently associated with the need for orotracheal intubation was vitamin A deficiency (standard error 0.58, 95% CI 0.042 to 0.405, $p = 0.000$).

Conclusions: Low levels of vitamin A and zinc are associated with a greater need for admission to the ICU and orotracheal intubation. Patients older than 65 years had higher mortality. Randomized clinical trials are needed to examine whether micronutrient supplementation could be beneficial as an adjunctive treatment in COVID-19.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Tables

Due to technical limitations, table 1 is only available as a download in the Supplemental Files section.