

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

Lara Bielsa Berrocal (✉ larabielsa@gmail.com)

Intensive Care Unit. University Hospital Germans Trias i Pujol, Badalona, Spain <https://orcid.org/0000-0003-1946-1336>

Teresa Tomasa Irriguible

Hospital Universitari Germans Trias i Pujol

Viridiana Philibert

Hospital Universitari Germans Trias i Pujol

Cristina Tural Llàcher

Hospital Universitari Germans Trias i Pujol

Jaume Barallat Martínez de Osaba

Hospital Universitari Germans Trias i Pujol

Josep Maria Manresa Domínguez

Fundación Instituto para la Investigación en Atención Primaria de Salud Jordi Gol i Gurina (IDIAPJGol)

Pere Torán Monserrat

Fundació Institut per la Investigació en Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol)

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

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Tables

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

Supplementary Files

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- [supplement1.pdf](#)