

Category : **Sepsis: basic mechanisms**

A214 - Probiotics as modifiers of the innate immune response in covid-19 and ards: a case-control study

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Introduction:

There is controversy if probiotic intake may be beneficiary or not for patients with COVID-19. We hypothesized that innate immune responses in COVID-19 may differ by severity and modulated by probiotics.

Methods:

Participants with confirmed COVID-19 infection were enrolled in the study between March 2020 and December 2021 and classified into patients with and without ARDS (acute respiratory distress syndrome). Peripheral blood mononuclear cells (PBMCs) are isolated and stimulated with probiotics. The studied probiotics were a commercially available preparation of *Saccharomyces boulardii*, *Bifidobacterium lactis* BB-12, *Lactobacillus acidophilus* LA-5 and *Lactobacillus plantarum* (Lactolevure, UniPharma, Athens, Greece). The concentrations of tumour necrosis factor (TNF)alpha, interleukin (IL)-1beta, and IL-6 were determined in cell supernatants by enzyme-linked immunosorbent assay. The same experimental procedure was performed for healthy volunteers.

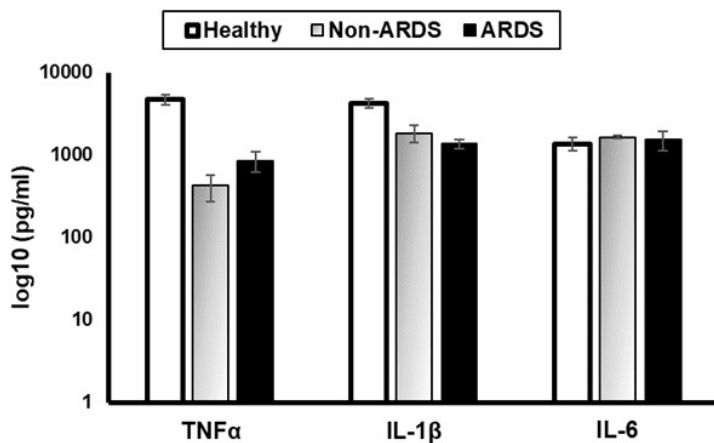
Results:

Experiments were done with 20 healthy volunteers, 19 patients without ARDS and 39 patients with ARDS. Results showed that probiotics do not change the production of IL-6 but decrease the production of TNFalpha and IL-1beta (Figure 1).

Conclusion:

Results suggest that probiotics may modulate the production of some of the pro-inflammatory cytokines in severe COVID-19.

Image :



Cytokine production capacity by PBMCs in the presence of probiotics