Abstract

The Effect of Increasing Secretory Immunoglobulin A level on Giving Oral Single Strain Bifidobacteria Probiotic in Burned Injury Patients
(A Pilot Study)

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Introduction: Sepsis as a result of bacterial translocation from the gastrointestinal tract (GIT) is a known associate of morbidity and mortality in patients with severe burns. This translocation is influenced by the GIT flora. A less investigated mechanism that seems to contribute to sepsis in burns is bacterial translocation the passage of microorganisms and/or their products from the gastrointestinal tract (GIT) lumen. Retrospective study of burn injured patients admitted in the burn care unit Dr.Soetomo Hospital Surabaya, 14.1% patients were died. Within periode June 2009-June 2011 about 60% of mortality rate from burn patients (10,38%) due to sepsis. In Burn injury, there is an increase of intestinal permeability reperfusion resulted in an increased risk of bacterial translocation and endotoxemia, histological lesions in mucosa and decreased levels of IgA and mucin. Oral consumptions of Bifidobacteria supplement can reduce the ratio of the balance of aerob bacteria, endotoxemia and mucosal lesions and reduce the symptoms of digestive disorders such as diarrhea in burn patients. Several treatment options were investigated to decrease bacterial translocation, among them a per os supplement of lactobacillus bacteria.

Objective: Our study aimed to assess the effect of the probiotic single strain Lactobacillus and Bifidobacteria supplementation to increased the secretory IgA (sIgA)in intestines in burn patients.

Method: An experimental study, double blind clinical trial. Clinical trial was carried out in minimal 16 mild-severely burn patients according American Burn Association, the age are between 16-60 y.o. They are 3 groups of patients, 1 control group with placebo, the second group ingested daily Lactobacillus supplement probiotic and the other took Bifidobacteria supplement probiotic, both for 14 days. Treatment was started on day 4 post burn injury. The level of sIgA was evaluated on day 4 (before treatment) and day 14 from faecal specimen. Data will be compared with results from previous research.

Results: sIgA level in Bifidobacteria group has a tendency to risen up after giving probiotic supplement for 14 days compared to control and Lactobacillus group (p=0,083).

Conclusion: Bifidobacteria affects in increasing the sIgA level although not statistically significant. It might be caused by the lacking of sample and time of experiment. It proves that Bifidobacteria affect the sIgA level in burned patients.

Keywords: probiotics, sIgA, Lactobacillus, Bifidobacteria, Sepsis, Bacterial translocation