

Pengaruh pemberian probiotik (*Lactobacillus reuteri*) terhadap T regulator pada penderita sle dengan manifestasi ringan = Effect of probiotic (*Lactobacillus reuteri*) administration on regulatory T cell in sle with mild manifestation / Deshinta Putri Mulya

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Abstrak

[ABSTRAK

Latar Belakang : Pada penderita Systemic Lupus Erythematosus (SLE) terdapat defek pada sel T regulator baik dalam hal jumlah maupun fungsi sel T regulator. Pemberian probiotik dalam hal ini pemberian *Lactobacillus reuteri* diharapkan mampu menstimulasi timbulnya respon imun yang bersifat imunoregulator dengan cara meningkatkan jumlah sel T regulator dan menurunkan produksi IL6. Tujuan : Mengetahui pengaruh pemberian probiotik terhadap toleransi sistem imun penderita SLE melalui perubahan kadar T regulator (CD4+CD25+Foxp3+) dan IL 6. Metode :30 subjek pasien SLE dengan manifestasi ringan yang datang ke poliklinik Alergi Immunologi RSCM, diberikan probiotik *Lactobacillus reuteri* (15 orang) dan placebo (15 orang) selama 8 minggu. CD4+CD25+FoxP3+ dan IL 6 diperiksa sebelum dan sesudah perlakuan menggunakan flowcytometri dan pemeriksaan ELISA. Hasil : Pemberian *Lactobacillus reuteri* selama 8 minggu meningkatkan kadarCD4+CD25+FoxP3+secara bermakna (1,38+ 8,36% VS 3,71+3,17% ; P=0,007 ; CI =-3,91 ? -0,74) . Terdapat penurunan kadar IL 6 setelah perlakuan, baik pada kelompok yang diberikan *Lactobacillus reuteri* (4,76+5,75 pg/ml VS 3,7 +3,36 pg/ml ; P=0,25 ; CI -0,83- 2,9) maupun pada kelompok placebo (2,6+2,02 pg/ml VS 2,07+2,39 ; P= 0,35 ; CI = -0,57 ? 1,52). Namun begitu, pada akhir penelitian perubahan tersebut tidak menimbulkan perbedaan bermakna kadar CD4+CD25+FoxP3+dan IL 6antara kedua kelompok. Kesimpulan :Terjadi peningkatan bermakna kadar CD4+CD25+FoxP3+ pada kelompok yang diberikan probiotik *Lactobacillus reuteri* selama 8 minggu.

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ABSTRACT

Backgroud : In patients with Systemic Lupus Erythematosus (SLE) there are abnormality on T lymphocytes, including the existence of a defect in the regulatory T cells both in terms of number and function. Giving probiotic, in this case *Lactobacillus reuteri* administration, is expected to stimulate the immune response to be more tolerance by increasing the number of regulatory T cells and decreasing the IL6 production.

Aim : To know the effect of probiotic (*Lactobacillus reuteri*) on the immune system of patients with SLE through changes in the levels of regulatory T cells (CD4+CD25+Foxp3+) and IL 6

Method :Thirty ofSLE patients with mild manifestations, who came to Allergy and Immunology Clinic of Cipto Mangunkusumo Hospital, were given the probiotic *Lactobacillus reuteri* (15 people) and placebo (15 people) for 8 weeks. CD4+ CD25 + FoxP3+ and IL 6 were examined before and after exposure using flowcytometri and ELISA. We then analyzed the levels of CD4 + CD25 + FoxP3 + and IL6 before and

after exposure.

Result : Administration of *Lactobacillus reuteri* for 8 weeks brought statistically significant improvement on CD4+ CD25 + FoxP3 +level (1,38+ 8.36% + 3.17% vs. 3.71; P = 0.007; CI = -3.91 - -0.74). There were decreased level of IL 6 in *Lactobacillus reuteri* group (4.76 + 5.75 pg / ml VS3,71 + 3.36 pg / ml; P = 0.25; CI - 0,83- 2, 9) and the placebo group (2.6 + 2.02 pg / ml vs. 2.07 + 2.39; P = 0.35; CI = - 0.57 - 1.5). However,at the end of study, those changes didn't make statistically significant difference of CD4+CD25+FoxP3+ and IL 6 level between two group.

Conclusion : A significant increase of the levels of CD4 + CD25 + FoxP3 + were found after 8 weeks *Lactobacillus reuteri* administration, Background : In patients with Systemic Lupus Erythematosus (SLE) there are abnormality on T lymphocytes, including the existence of a defect in the regulatory T cells both in terms of number and function. Giving probiotic, in this case *Lactobacillus reuteri* administration, is expected to stimulate the immune response to be more tolerance by increasing the number of regulatory T cells and decreasing the IL6 production.

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