

# Pengaruh pemberian Vitamin A terhadap profil imun pasien Tuberkulosis Paru dengan terapi obat anti Tuberkulosis = The effect of vitamin A supplementation on the immune profile of pulmonary Tb patient during oral anti tuberculosis treatment

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Abstrak

## <b>ABSTRAK</b>

Ruang Lingkup dan Cara Penelitian : Penyakit tuberkulosis paru masih merupakan masalah di negara berkembang termasuk Indonesia. Tuberkulosis menduduki urutan ke 2 sebagai penyebab kematian menurut hasil survey nasional 1992. Dari kepustakaan diketahui bahwa pada penderita tuberkulosis didapati kelainan imunitas seluler, sehingga untuk penyembuhan penyakit tuberkulosis diperlukan pengaktifan sistem imun testa imunitas seluler. Vitamin A sudah lama dikenal sebagai imunomodulator. Dari penelitian terdahulu pemberian retinoid dapat meningkatkan respon imun seluler antara lain kenaikan sel T penolong dan T penolong/supresor. Pada penelitian ini diharapkan pemberian vitamin A sejumlah 2x 200000IU pada penderita TB paru dengan OAT dapat meningkatkan imunitas seluler. Tujuan penelitian ini adalah menilai pengaruh pemberian vitamin A pada penderita tuberkulosis paru yang sedang mendapat OAT terhadap jumlah limfosit total, limfosit T total, sub populasi limfosit T, kadar retinol plasma, dan keadaan klinik penderita. Vitamin A 200.000 IU diberikan pada awal penelitian dan setelah 4 minggu. Penelitian dilakukan secara uji klinik tersamar ganda pada 40 penderita TB paru. Penderita dibagi dalam 2 kelompok masing-masing 20 orang yang diberi vitamin A dan placebo. Pada akhir penelitian yaitu setelah 8 minggu, ada 5 orang drop out.

Hasil dan kesimpulan : Dari 40 orang peserta penelitian 10% kadar retinol plasma rendah (<20pg/dl), 30% normal, rendah(20-30pg/d.l), 60% normal. Pada pemeriksaan imunitas seluler 53,85% ada gangguan dan 46,15% normal. Nilai rata rata hitung (X) retinal plasma kelompok placebo dan perlakuan sebelum pemberian vit. A/placebo berturut-turut adalah  $30,24 \pm 7,51 \mu\text{g/dl}$  dan  $30,82 \pm 7,31 \mu\text{g/dl}$ . Setelah pemberian adalah  $36,85 \pm 9,74 \mu\text{g/dl}$  dan  $38,02 \pm 8,29 \mu\text{g/dl}$ . Pada uji t berpasangan dari kelompok perbkkkan kenaikannya bermakna ( $p < 0,05$ ). Tidak ada perbedaan bermakna antara kedua kelompok. Nilai rata-rata hitung (X) limfosit total dari kelompok placebo dan perlakuan sebelum pemberian vit. A /placebo berturut-turut:  $22,61 \pm 6,51\%$  dan  $22,63 \pm 8,62\%$ , sesudah pemberian:  $38,09 \pm 19,91\%$  dan  $35,20 \pm 10,71\%$ . Kenaikan pada masing-masing kelompok bermakna, tapi tak ada perbedaan bermakna antara kedua kelompok. Nilai limfosit T total, T penolong dan T penolong/T supresor tidak didapati kenaikan bermakna, justru didapati sedikit penurunan. Nilai T penolong penurunannya lebih banyak pada kelompok placebo yaitu 5,75% dibanding 2,29%, namun tidak berbeda bermakna. Perbaikan klinik pada bulan kedua antara kedua kelompok tidak berbeda bermakna. Kesimpulannya adalah pemberian vitamin A 2 x 200000 IU dalam 8 minggu walaupun mampu meningkatkan kadar vitamin A namun belum dapat meningkatkan imunitas maupun perbaikan klinik yang bermakna.

<hr><i><b>ABSTRACT</b>

Scope and Method of Study : Pulmonary tuberculosis is still a major health problem in the developing

countries including Indonesia. Tuberculosis is number 2 as cause of death (National Survey's data, 1992). According to literature study tuberculosis patients are suffering from an immune defect. To recover from the disease the immune response especially the cellular immune response needs to be activated, because mycobacterium TB are living intracellular. Vitamin A is known as an immunomodulator. From earlier research it is known that retinoid could enhance cellular immune response, ie. increasing T helper cells and the ratio Thelperffsupresor. The hypothesis is that supplementation of vitamin A 2x2000001U to pulmonary TB patients could increase the cellular immunity. The aim of this study was to asses the vitamin A supplementation on the immune?s profile of pulmonary TB patient who are on oral anti tuberculosis treatment. Plasma retinot, nutrients intake, BMI, clinical findings were examined. Vitamin A 200.000M was given twice, in the beginning of the study and after 4 weeks. The design of the study was a randomized double blind clinical trial. Forty patients were selected and divided into 2 groups, a placebo and treatment (vitamin A) group. At the end of the study (after the 8th week), 5 patients dropped out.

Findings and Conclusions : Among 40 patients 10% showed plasma ret noK20 p g/dl), 30% normal low (20-30pgldl) and 60% normal. (03011g041). The cellular immunity was 53,85% abnormal and 46,15% normal The means (X) of plasma retinol of the placebo and study group before supplementation were  $30.24 \pm 7,51$   $\mu\text{g}/\text{dl}$  and  $30.82 \pm 7.31\mu\text{g}/\text{dl}$  respectively; after supplementation  $36.85 \pm 9.74\mu\text{g}/\text{dl}$  and  $38.02 \pm 8.29\mu\text{g}/\text{dl}$  respectively. Statistical analysis using paired t test showed that the study group was increasing s' 0,05), however there was no Significant difference between the 2 groups. The mean (X) of total lymphocyte before supplementation of the placebo and study group were  $22.61 \pm 6.51\%$  and  $22.63 \pm 8,62\%$ ; after supplementation  $38.09 \pm 19.91\%$  and  $35.20 + 10.71\%$ . Both were increasing significant; however there was no significant difference between the 2 groups. The T lymphocyte, T helper and ratio Thelper CT supresor were decreasing. T helper more in the placebo group 5.75% 2.29% but there was no significant difference. This study concluded that although vitamin A supplementation 2 X 200.000 IU could increase the plasma retinol but could not yet improve the immune response and clinical status significantly.</i>