Zinc supplementation could modulate T cell to maintain interleukin-2 level in seropositive contact of leprosy patients

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Abstrak

Latar belakang: WHO mencatat jumlah penderita kusta di Indonesia menduduki peringkat ketiga di dunia setelah India dan Brazil. Jumlah penderita kusta baru cenderung meningkat kemungkinan karena yang seropositif kusta telah berubah menjadi manifest klinis. Penelitian ini bertujuan untuk mengetahui pengaruh suplementasi seng terhadap kadar interleukin 2 (IL-2) pada narakontak kusta yang seropositif dengan status seng marjinal. Metode: Dua puluh dua orang berusia 20 ? 40 tahun ikut dalam penelitian ini. Kelompok yang disuplementasi seng menerima dosis 40 mg seng/hari selama 3 bulan. Seropositif kusta ditentukan berdasarkan kadar IgM anti Phenolic Glycolipid?1, dan kadar IL-2 pada supernatan kultur sel limfosit diukur dengan metode Elisa. Hasil: Kadar IL-2 pada kelompok yang menerima seng relatif tidak berubah (p= 0,721), sedangkan pada kelompok plasebo terjadi penurunan bermakna kadar IL-2 (p= 0,025) pada akhir penelitian. Kesimpulan: Terdapat perbedaan bermakna perubahan kadar IL-2 di antara ke dua kelompok (p= 0,037).

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Abstract

Background: WHO classifi ed the number of leprosy cases in Indonesia as number three in the world after India and Brazil. The number of new leprosy patients tends to increase since there is a possibility that seropositive leprosy is turning into manifest leprosy. The aim of this study was to analyze the infl uence of zinc supplementation on interleukin-2 (IL-2) level of seropositive contact of leprosy patients with marginal zinc defi ciency. Methods: Twenty two subjects aged 20-40 years were recruited for this study. The zinc-supplemented group received 40 mg elemental Zn/d orally for 3 months. Seropositive leprosy was determined by examining IgM anti Phenolic Glycolipid?1 level and concentration of IL-2 in lymphocyte cell culture supernatant fl uid were measured by Elisa method. Results: The IL-2 concentration in the subject in the zinc group was relatively not changed (p= 0.721), whereas that in placebo group tended to be signifi cantly lower (p= 0.025) at the end of the study. Conclusion: There was a signifi cant change of IL-2 level between both groups (p= 0.037).