

## **PERBEDAAN KADAR INTERFERON GAMMA PADA PENDERITA TUBERKULOSIS ANAK**

### **INTISARI**

**Latar belakang.** Tuberkulosis (TB) adalah penyakit akibat infeksi kuman *Mycobacterium tuberculosis*. Salah satu sitokin yang diproduksi sel Th1 adalah interferon gamma (IFN- $\gamma$ ) yang berperan penting dalam mengeliminasi bakteri *Mycobacterium tuberculosis*. Terjadinya gangguan atau penurunan aktivitas sel Th1 dan sitokinnya yaitu IFN- $\gamma$  cukup bermakna dalam memengaruhi mekanisme pertahanan tubuh terhadap penyakit TB. Manifestasi klinis penyakit TB terjadi karena adanya defisiensi imun, terutama imunitas selular.

**Tujuan.** Mengkaji perbedaan kadar interferon gamma dilihat dari derajat lesi paru pada pasien TB anak.

**Metode.** Penelitian *cross sectional* dilakukan di RSUP Dr. Sardjito and RSUD Sleman selama bulan Desember 2014. Subyek penelitian adalah anak kurang dari 15 tahun yang terdiagnosis TB menggunakan skor TB IDAI. Produksi interferon-gamma diukur dengan metode ELISA dan perbedaan kadarnya dibandingkan dengan derajat lesi paru.

**Hasil.** Berdasarkan derajat lesi paru, kadar IFN- $\gamma$  pada kasus tuberkulosis anak dengan lesi paru minimal ( $8,37 \pm 3,25$ ) lebih tinggi daripada kasus dengan lesi paru sedang ( $3,52 \pm 1,75$ ), dan lesi paru luas ( $4,83 \pm 2,78$ ).

**Kesimpulan.** Ada perbedaan rerata kadar IFN- $\gamma$  serum TB anak berdasarkan derajat lesi paru minimal, sedang, dan luas, walaupun secara statistik tidak bermakna.

**Kata kunci:** interferon gamma, tuberkulosis anak, derajat lesi paru

## DIFFERENCES IN LEVELS OF INTERFERON GAMMA ON TUBERCULOSIS IN CHILDREN

### ABSTRACT

**Background.** Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis*, a Gram positive bacteria. One of the cytokines produced by Th1 cells is interferon gamma (IFN- $\gamma$ ), which plays an important role in eliminating the bacterium *Mycobacterium tuberculosis*. Disruption or reduction in Th1 cell activity and IFN- $\gamma$  sitokinnya that is significant enough to affect the body's defense mechanism against TB disease. Clinical manifestations of TB disease occurs because of an immune deficiency, especially cellular immunity.

**Objective.** To examines the differences in levels of interferon gamma-degree views of lung lesions in patients with TB in children.

**Method.** Cross sectional study was conducted at Hospital Dr. Sardjito and Sleman District Hospital during December 2014. The subjects were children less than 15 years who were diagnosed with TB using IDAI TB score. Interferon-gamma production was measured by ELISA and the relative differences compared with the degree of lung lesions.

**Results.** Based on the degree of lung lesions, the levels of IFN- $\gamma$  in tuberculosis cases of children with minimal lung lesions ( $8,37 \pm 3,25$ ) is higher than is the case with lung lesions were ( $3,52 \pm 1,75$ ), and extensive pulmonary lesions ( $4,83 \pm 2,78$ ).

**Conclusion.** There are differences between the mean serum levels of IFN- $\gamma$  child TB based on degree of lung lesions, moderate, and extensive, although not statistically significant.

**Keyword:** interferon gamma, TB in children, lung lesions