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Ocular Complication of Ethambutol Used for Pulmonary Tuberculosis Therapy in Balai Pengobatan dan Pemberantasan Penyakit Paru, Surabaya

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Abstract

Ethambutol is an anti-tuberculosis drug (ATD). If it is used systemically in certain dose and period, it may produce side effects in eyes, particularly the disturbance of visual field and color perception. The objective of this study was to find the number of patients consuming Ethambutol who experienced disturbance in visual field and color perception and to observe the amount of dose received, as well as the time span of the occurrence of those disturbances. This was a descriptive cross-sectional study conducting at Balai Pengobatan Paru Surabaya (Surabaya Pulmonary Disease Treatment Center). Observation was made to pulmonary tuberculosis patients category I and II receiving Ethambutol therapy between December 2003 and April 2004. Examination covered anterior segment, which was done using flashlight, posterior segment using direct ophthalmoscopy, Ishihara and Farnsworth Munsel tests for color perception, and visual field was observed by means of tangent screen. The examination was proceeded with Goldman perimetry in Dr Soetomo Hospital if scotoma was found. Collected data were counted and observed descriptively and tabulated into tables. It was found that from 200 pulmonary tuberculosis patients, 110 (55%) were male and 90 (45%) female, mostly belong to an age range of 15 - 50 years (64%). Those in non-productive age of 50 years was 24%. Most of the patients (50%) went to elementary school only, while 12% to junior high, 13% to senior high, and 5% to higher education. A proportion of 20% were not formally educated. According to the guidelines from Indonesian Department of Health (1996), Ethambutol in 15-20 mg/kg BW was the most frequent dose given, received by 68% of the respondents. Other 28% received 21-25 mg/kg BW and 4% received more than 50 mg/kg BW. There were 2 patients (1%) of Ethambutol users had visual field and color perception disturbance. It can be concluded that Ethambutol may produce visual field and color perception disorders, and, even worse, visual disturbance. Therefore, any patients planned to receive Ethambutol therapy should have visual evaluation before and after therapy. Color test by applying Isihara test is important to early detect Ethambutol-resulted ocular complications. TB patients therapied with ATDs should in the first place be informed about the ocular side effects of the drugs.

Keyword : Ethambutol, ocular, complications, pulmonary, tuberculosis, ATDs, visual, field, color, perception,

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