BALANCING SELECTION OF HLA CLASS II AMONG INDONESIANS
(Joewono Soeroko)

THE INFLUENCE OF EXTREMELY LOW FREQUENCY (ELF) MAGNETIC FIELDS INDUCTION TO THE PRODUCTION OF IFN-γ ON BALB/C MICE
(Sudardi, Syarifuddin Mahmudshah, Nurahra Wahyu Cahyono)

COMPARISON OF SERUM ESTROGEN AND PLASMA TRANSFORMING GROWTH FACTOR BETA-1 (TGFβ-1) LEVELS IN BENIGN PROSTATIC HYPERPLASIA (BPH) - NON BPH PATIENTS OVER 50 YEARS OLD AND YOUNGER (30-40 YEARS OLD)
(Soetojo)

ROLE OF MOUTHPIECE ON THE EFFICACY AND SAFETY OF Budesonide Turbuhaler IN THE TREATMENT OF ASTHMATIC CHILDREN: LESSON FROM M3 STUDY
(Anyanto Harsojo)

THE EFFECT OF KEGEL ON MANAGEMENT OF URINE ELIMINATION PROBLEMS FOR ELDERLY A Quasi-Experimental Study
(Nursalam, Joni Haryanto, I Ketut Dira)

PREVALENCE OF CATARACT IN DIABETIC PATIENTS AT OPHTHALMOLOGY OUTPATIENT CLINIC, DR SOETOMO HOSPITAL, SURABAYA
(Sjamsu Budiono)

THE EFFECTS OF ORCHIDECTOMY AND DETORSION AFTER UNILATERAL TESTICULAR TORSION UPON IMMUNE RESPONSE IN THE CONTRALATERAL TESTIS
(Ongkorahardjo E, Hardjowidjojo S, Soetojo)

FECAL MATERIAL IN APPENDICEAL LUMEN: ACUTE OR CHRONIC INFLAMMATION?
(J8 Pratowo)

THE DIFFERENCE OF THE QUALITY OF LIFE IN THE END STATE RENAL DISEASE PATIENT BETWEEN CONTINUOUS AMBULATORY PERITONEAL DIALYSIS AND HAEMODIALYSIS THERAPY
(Prawiyo Singosumidjo, AY Hanadya)

OCULAR COMPLICATION OF ETHAMBUSOL USED FOR PULMONARY TUBERCULOSIS THERAPY IN BALAT PENGOBATAN DAN PEMERANTASAN PENYAKIT PARU, SURABAYA
(Sjamsu Budiono)

Review Article and Clinical Experience:
BRIDGING THE GAP IN THE LIPID MANAGEMENT: THE ROLES OF HDL-C IN THE CVES AND CREATING A NEW CONCEPTS FOR ITS Raising
(Askandar Tjokroprawiro)

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<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Balancing Selection of HLA Class II Among Indonesians</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The Influence of Extremely Low Frequency (ELF) Magnetic Fields Induction to The Production of IFN-β On Balb/C Mice</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Comparison of Serum Estrogen and Plasma Transforming Growth Factor β-1 (TGF β-1) Levels in Benign Prostatic Hyperplasia (BPH) &amp; Non BPH Patients Over 50 Years Old and Younger (30-40 Years Old)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Role of Mouthpiece on The Efficacy and Safety of Budesonide Turbuhaler in The Treatment of Asthmatic Children: Lesson from M3 Study</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The Effect of Kegel on Management of Urine Elimination Problems for Elderly A Quasy® Experimental Study</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Prevalence of Cataract in Diabetic Patients at Ophthalmology Outpatient Clinic, Dr Soetomo Hospital, Surabaya</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>The Effects of Orchidectomy and Detorsion After Unilateral Testicular Torsion Upon Immune Response in The Contralateral Testis</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Fecal Material (FM) in Appendiceal Lumen: Acute or Chronic Inflammation?</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>The Difference of The Quality of Life in The End State Renal Disease Patient Between Continuous Ambulatory Peritoneal Dialysisis and Haemodialysis Therapy</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Ocular Complication of Ethambutol Used for Pulmonary Tuberculosis Therapy in Balai Pengobatan dan Pemberantasan Penyakit Paru, Surabaya</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Review Article and Clinical Experience: BRIDGING THE GAP IN THE LIPID MANAGEMENT: THE ROLES OF HDL-C IN THE CVES AND CREATING A NEW CONCEPTS FOR ITS RAISING</td>
<td></td>
</tr>
</tbody>
</table>
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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,