A3243G MITOCHONDRIAL DNA MUTATION DOES NOT PLAY AN IMPORTANT ROLE AMONG DM POPULATION IN INDONESIA
(Agung Pranoto)

EFFECT OF CURCUMIN ON THE LEVELS OF TOTAL CHOLESTEROL, LDL-CHOLESTEROL, THE AMOUNT OF F2-ISOPROSTAN AND FOAM CELL IN AORTIC WALL OF RATS WITH ATEROGENIC DIET
(Ika Fikriah)

INCREASE OF IMMUNOglobulin A TITER IN MICE INTESTINAL MUCOSA AFTER IMMUNIZATION WITH TOXOPLASMA GONDII SOLUBLE PROTEIN WITH AND WITHOUT INTRANASAL CHOLERA TOXIN ADJUVANT
(Mona Zubaaidah)

USE OF HEMATOLOGICAL AND IMMUNOLOGICAL BIOMARKERS AS INDICATORS OF PB INTOXICATION
(Tri Martiana)

CORRELATION BETWEEN BIRTHWEIGHT AND BODYWEIGHT INCREASE OF PREGNANT WOMEN WITH NORMAL BODY MASS
(Marsianto)

ANALYSIS OF THE RISK FACTORS OF PULMONARY EDEMA IN PREECLAMPSIA-ECLAMPSIA IN DR SOETOMO HOSPITAL, SURABAYA
(Marsianto)

THE ROLE OF LAPAROSCOPY SURGERY IN INFERTILITY
(Budi Santoso)

INFLUENCE OF LBW FORMULA FEEDING ON THE GROWTH OF LOW BIRTH WEIGHT INFANT
(Risa Etkia)

DIAGNOSIS OF UPPER URINARY TRACT INFECTION USING STREPTAVIDIN BIOTIN TEST IN URINE SEDIMENT
(Indi Priyambodo)

DETECTION OF DENGUE VIRUS ANTIGEN IN MONOCYTE TO SUPPORT THE DIAGNOSIS OF DENGUE HEMORRHAGIC FEVER
(Y Ninong Sri Wuryaningsih)

DRUG UTILIZATION PROFILE IN HIV/AIDS PATIENTS
A Study at Dr. Soetomo Teaching Hospital Surabaya
(Yulistiani, Junaidi Khotib, Bambang Subakti Zulkarnain, Nasronudin)
## Table of Contents

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A3243G Mitochondrial DNA Mutation does not Play an Important Role among DM Population in Indonesia</td>
<td>129 - 135</td>
</tr>
<tr>
<td>2</td>
<td>EFFECT OF CURCUMIN ON THE LEVELS OF TOTAL CHOLESTEROL, LDLCHOLESTEROL, THE AMOUNT OF F2-ISOPROSTAN AND FOAM CELL IN AORTIC WALL OF RATS WITH ATHEROGENIC DIET</td>
<td>136 - 140</td>
</tr>
<tr>
<td>3</td>
<td>Increase of Immunoglobulin A Titer in Mice Intestinal Mucosa after Immunization with Toxoplasma Gondii Soluble Protein with and without Intranasal Cholera Toxin Adjuvant</td>
<td>141 - 147</td>
</tr>
<tr>
<td>4</td>
<td>Use of Haematological and Immunological Biomarker as Indicator of Pb Intoxication</td>
<td>148 - 152</td>
</tr>
<tr>
<td>5</td>
<td>Correlation between Birthweight and Bodyweight Increase of Pregnant Women with Normal Body Mass</td>
<td>153 - 159</td>
</tr>
<tr>
<td>6</td>
<td>ANALYSIS OF THE RISK FACTORS OF PULMONARY EDEMA IN PREECLAMPSIAECLAMPSIA IN DR SOETOMO HOSPITAL, SURABAYA</td>
<td>160 - 164</td>
</tr>
<tr>
<td>7</td>
<td>The Role of Laparoscopy Surgery in Infertility</td>
<td>165 - 169</td>
</tr>
<tr>
<td>8</td>
<td>Influence of LBW Formula Feeding on the Growth of Low Birth Weight Infant</td>
<td>170 - 176</td>
</tr>
<tr>
<td>9</td>
<td>Diagnosis of Upper Urinary Tract Infection using Streptavidin Biotin Test in Urine Sediment. A New Approach Using Immunohistochemical Test for Determining the Site of Urinary Tract Infection</td>
<td>177 - 182</td>
</tr>
<tr>
<td>10</td>
<td>Detection of Dengue Virus Antigen in Monocytes to Support the Diagnosis of Dengue Hemorrhagic Fever</td>
<td>183 - 188</td>
</tr>
<tr>
<td>11</td>
<td>Drug Utilization Profile in HIV/AIDS Patients. Study at Dr Soetomo Teaching Hospital Surabaya</td>
<td>189 - 194</td>
</tr>
</tbody>
</table>
Use of Haematological and Immunological Biomarker as Indicator of Pb Intoxication

Abstract

Transportation and industrial activities give high contribution to Pb exposure. The level of Pb in the air increases to 1.6-42 µg/m³ (WHO standard 0.001µg/m³) and in water reaches 120 µg/dl (WHO < 60 µg/dl). There are some researchers who examined the impact of Pb to health, but the results had insignificant impact. The objective of the study was to reveal the impact of Pb exposure to haematological and immunological system. The research was done by the metaanalysis method from similar researches. This article metaanalyses the research that used haematological and immunological system variables to Pb exposed objects. Variables in the haematological system which can be used as biomarker are the increase young reticulocyte, basophilic stippling, howel jolly bodies (normally not occurred), thrombocytosis, and blood zinc protophorphyrin > 1.3 µmol/l. Biomarker variable in the immunological system was the change of Th1/Th2 balance, in which Th1 showed an increase. In conclusion, haematological and immunological biomarker can be used as the indicator of Pb exposure. Further research is suggested in order to reveal the more specific and sensitive variables.

Keyword : Plumbum, (Pb), exposure, haematologic, indicator, immunologic, indicator,

Daftar Pustaka :
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