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Editorial

Opinion:
THE DRAMATIC AVIAN INFLUENZA EPIDEMIC & THE PIG CONNECTION
(Purnomo Suryokusumo)

THE POTENCY OF PIPERINE AS ANTIINFLAMMATORY AND ANALGESIC IN RATS AND MICE
(Sri Agus Sudjarwo)

BRAIN DERIVED NEUROTROPHIC FACTOR (BDNF) IS A KEY MEDIATOR OF LEARNING PLASTICITY
(Yudiarto FL, Kasan U, Judhayana AM, Purba J)

MIGRAINE HEADACHE IN A CHILD WITH HOUSE DUST AND MITE ALLERGY. A CASE REPORT
(Anang Endaryanto, Arifianto Harsono)

LONG VERSUS STANDARD INITIAL STEROID THERAPY FOR CHILDREN WITH IDIOPATHIC NEPHROTIC SYNDROME
(Mohamad Sjarifullah Noer)

Research Article

THE EFFECT OF NURSING CARE APPROACH MODEL (NCAM=PAKAR) ON THE INCREASE OF CD4 CELL COUNT FOR PATIENT WITH HIV INFECTION
(Nursalam)

CLINICAL OUTCOME OF ASTHMA WITH HOUSE DUST IMMUNOTHERAPY IN CHILDREN
(Arifianto Harsono, Irene Rathidewi)

DIFFERENT CLINICAL MANIFESTATION OF CEREBRAL LUPUS DUE TO DIFFERENT BRAIN INVOLVEMENT. A REPORT OF TWO CASES
(Rahmat, Rizal Alfaw, Niniek Soemartono, Sjarifullah Noer, Arifianto Harsono, Fatimah Hanimah)

A COMPARATIVE TEST OF EYEDROPS TIMOLOL 0.5% AND BETAXOLOL 0.5% IN THE REDUCTION OF INTRAOCULAR PRESSURE IN PRIMARY OPEN-ANGLE GLAUCOMA IN DR SOETOMO HOSPITAL, SURABAYA
(Sjamsu Budiono)

EFFICACY OF FINE NEEDLE BIOPSY IN THE DIAGNOSIS OF TUBERCULOUS CERVICAL LYMPHADENITIS
(Suharto Reksoprajuwo)

MOLECULAR AND IMMUNOLOGICAL ASPECTS OF ANEMIA IN MALARIA
(Sri Hidayat)

Review Article and Clinical Experience:
INSULIN GARGINE COMBINED WITH ORAL AGENT IN T2DM
(CLINICAL USES OFFFORMULAS: 1/3, 1/5, 2/3, 2/5, 2/2, 1/1, AND 1/2)
(Askander Tjakoprawiro)

Abstracts

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<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EDITORIAL Vol 41 No 3 2005</td>
<td>186 - 186</td>
</tr>
<tr>
<td>2</td>
<td>OPINION: THE DRAMATIC AVIAN INFLUENZA EPIDEMIC AND THE PIG CONNECTION</td>
<td>187 - 189</td>
</tr>
<tr>
<td>3</td>
<td>The Potency of Piperine as Antiinflammatory and Analgesic in Rats and Mice</td>
<td>190 - 194</td>
</tr>
<tr>
<td>4</td>
<td>Brain Derived Neurotrophic Factor (BDNF) is a Key Mediator of Learning Plasticity</td>
<td>195 - 199</td>
</tr>
<tr>
<td>5</td>
<td>Migraine Headache in a Child With House Dust and Mite Allergy. A Case Report</td>
<td>200 - 204</td>
</tr>
<tr>
<td>6</td>
<td>Long Versus Standard Initial Steroid Therapy for Children with Idiopathic Nephrotic Syndrome</td>
<td>205 - 211</td>
</tr>
<tr>
<td>7</td>
<td>Research Article: The Effect of Nursing Care Approach Model (NCAM = PAKAR) on the Increase of CD4 Cell Count for Patient with HIV Infection</td>
<td>212 - 216</td>
</tr>
<tr>
<td>8</td>
<td>Clinical Outcome of Asthma with House Dust Immunotherapy in Children</td>
<td>217 - 221</td>
</tr>
<tr>
<td>9</td>
<td>Different Clinical Manifestation of Cerebral Lupus due to Different Brain Involvement. A Report of Two Cases</td>
<td>222 - 229</td>
</tr>
<tr>
<td>10</td>
<td>A Comparative Test of Eyedrops Timolol 0.5% and Betaxolol 0.5% in the Reduction of Intraocular Pressure in Primary Open-Angle Glaucoma in Dr Soetomo Hospital, Surabaya</td>
<td>230 - 235</td>
</tr>
<tr>
<td>11</td>
<td>Efficacy of Fine Needle Biopsy in the Diagnosis of Tuberculous Cervical Lymphadenitis</td>
<td>236 - 239</td>
</tr>
<tr>
<td>12</td>
<td>Molecular and Immunological Aspects of Anemia in Malaria</td>
<td>240 - 247</td>
</tr>
<tr>
<td>13</td>
<td>Review Article and Clinical Experience: Insulin Glargine Combined with Oral Agent in T2DM (Clinical Uses of Formulas: 1/3, 5-5, 2-2, 1-1, and 1-2)</td>
<td>248 - 255</td>
</tr>
</tbody>
</table>
The Potency of Piperine as Antiinflammatory and Analgesic in Rats and Mice

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Abstract

The potency of piperine as anti inflammatory and analgesic were investigated. Piperine was evaluated for antiinflammatory effect by carrageen-induced rat paw edema. Sprague Dawley Rats were divided into the control groups were given saline perorally, piperine groups received doses of 2.5; 5 and 10 mg/kg piperine (peroral) respectively. This was followed by the administration of 1 % caragenin through the intraplantar route 30 min after administration piperine or saline. After the carrageenan injection was measurement of paw volume and prostaglandin production. The piperine in doses of 2.5; 5 and 10 mg/kg showed 5.4; 43.8 and 54.8 % inhibition of paw edema respectively at the end of three hours. The increase in prostaglandin (PGE2) levels after carrageenan injection was significantly prevented by preadministration of the piperine at 5 and 10 mg/kg but not piperine at 2.5 mg/kg. These results suggest that piperine has antiinflammatory properties may be attributed to inhibition of prostaglandin release. The analgesic activity of piperine was tested by acetic acid-induced writhing response and hot plate method in albino mice. The piperine in doses of 2.5; 5 and 10 mg/kg showed the percentage of protection from writhing was 1.4; 5.9 and 3.3 % respectively. However the piperine at 2.5; 5 and 10 mg/kg resulted no significantly analgesic effect in acetic acid-induced writhing response. In the hot plate model, the piperine at 2.5; 5 and 10 mg/kg resulted no significantly analgesic effect after 30 min, 1, 2 and 3 h of administration. These results suggest that piperine has not analgesic properties.

Keyword : Writhing, test, hot, plate, carrageen, prostaglandin, ,

Daftar Pustaka :

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