MAGE-1 cDNA ISOLATION FROM TESTIS WITH RT PCR
(Gondo Mastuti et al.)

EFFECT OF FISH OIL ON BLOOD CHOLESTEROL LEVEL IN RATS FED WITH HYPERCHOLESTEROLEMIC DIET
(Tantiana)

CYTOLOGIC EXAMINATION USING SWAB METHOD TO EVALUATE RADIOLOGIC OUTCOME
IN NASOPHARYNGEAL CARCINOMA PATIENTS POST-RADIOTherAPY
(DE Palandeng, Hoetomo, Widodo Ano K Pondron)

ROLE OF ANTERIOR DECOMPRESSION IN CERVICAL SPONDYLOSIs MYELOPATHY:
A REPORT OF 64 CASES
(Anda Hafid Bejaral)

CORRELATION BETWEEN NUTRITIONAL STATUS OF PREGNANT MOTHERS AND ATERM BIRTHWEIGHT
IN DR SOETOMO HOSPITAL SURABAYA, 1992
(Marsianto)

PERSISTENT IMPAIRMENT OF CEREBRAL CORTICES DUE TO PROTEIN-ENERGY MALNUTRITION (PEm). 
Anatomical, Histological, and Physiological Perspectives
(Viskasari P Kalanji)

ROLE OF SERUM NEURON SPECIFIC ENOLASE (NSE) TO DIFFERENTIATE ISCHEMIC STROKE
FROM HEMORRHAGIC STROKE AND ITS CORRELATION WITH BRAIN DAMAGE VOLUME
(Dwi Lilis Lukas, Endang Retnowati, Saifud Islam)

THE EFFECT OF LOW LEVEL LASER THERAPY IN CARPAL TUNNEL SYNDROME PATIENTS
(Bayu Santoso, Reni Hendrawati Masduchi, Imam Subadi, Swain Jen)

METABOLIC SYNDROME IN PATIENTS WITH MITOCHONDRIAL DIABETES MELLITUS
(Agung Pranoto)

DECREASED HUMAN MILK IMMUNITY IN DOUBLE LIFE MOTHERS
(AA Subiyanto)

CONGENITAL MUSCULAR TORTICOLLIS WITH SHORTENING OF RIGHT STERNOCLEIDOMASTOID MUSCLE.
A CASE REPORT
(Djohangiah Marzoeke, Ferdinand)

EFFECT OF ACANTHUS ILICIFOLIUS L EXTRACT ON THE REDUCTION OF TNF-α EXPRESSION
IN WISTAR STRAIN RATTUS NORVEGICUS
(I Ketut Sudiana, Elyana S Amsar)

Review Article and Clinical Experience:
GRAVES' DISEASE AND THYROID STORM
ATD Therapy, Formulas TS - 41668, CS - 7.3.7
(Askendar Tjopoprawiro)
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MAGE-1 cDNA ISOLATION FROM TESTIS WITH RT PCR</td>
<td>195 - 200</td>
</tr>
<tr>
<td>2</td>
<td>EFFECT OF FISH OIL ON BLOOD CHOLESTEROL LEVEL IN RATS FED WITH HYPERCHOLESTEROLEMIC DIET</td>
<td>201 - 203</td>
</tr>
<tr>
<td>3</td>
<td>CYTOLOGIC EXAMINATION USING SWAB METHOD TO EVALUATE RADIOLOGIC OUTCOME IN NASOPHARYNGEAL CARCINOMA PATIENTS POST-RADIOTHERAPY</td>
<td>204 - 209</td>
</tr>
<tr>
<td>4</td>
<td>ROLE OF ANTERIOR DECOMPRESSION IN CERVICAL SPONDYLOSIS MYELOPATHY: A REPORT OF 64 CASES</td>
<td>210 - 216</td>
</tr>
<tr>
<td>5</td>
<td>CORRELATION BETWEEN NUTRITIONAL STATUS OF PREGNANT MOTHERS AND ATERM BIRTHWEIGHT IN DR SOETOMO HOSPITAL SURABAYA, 1992</td>
<td>217 - 225</td>
</tr>
<tr>
<td>6</td>
<td>PERSISTENT IMPAIRMENT OF CEREBRAL CORTICES DUE TO PROTEIN-ENERGY MALNUTRITION (PEM) Anatomical, Histological, and Physiological Perspectives</td>
<td>226 - 229</td>
</tr>
<tr>
<td>7</td>
<td>ROLE OF SERUM NEURON SPECIFIC ENOLASE (NSE) TO DIFFERENTIATE ISCHEMIC STROKE FROM HEMORRHAGIC STROKE AND ITS CORRELATION WITH BRAIN DAMAGE VOLUME</td>
<td>230 - 234</td>
</tr>
<tr>
<td>8</td>
<td>THE EFFECT OF LOW LEVEL LASER THERAPY IN CARPAL TUNNEL SYNDROME PATIENTS</td>
<td>235 - 245</td>
</tr>
<tr>
<td>9</td>
<td>METABOLIC SYNDROME IN PATIENTS WITH MITOCHONDRIAL DIABETES MELLITUS</td>
<td>246 - 254</td>
</tr>
<tr>
<td>10</td>
<td>DECREASED HUMAN MILK IMMUNITY IN DOUBLE LIFE MOTHERS</td>
<td>255 - 259</td>
</tr>
<tr>
<td>11</td>
<td>CONGENITAL MUSCULAR TORTICOLLIS WITH SHORTENING OF RIGHT STERNOCLEIDOMASTOID MUSCLE: A CASE REPORT</td>
<td>260 - 264</td>
</tr>
<tr>
<td>12</td>
<td>EFFECT OF ACANTHUS ILICIFOLIUS L EXTRACT ON THE REDUCTION OF TNF-Î± EXPRESSION IN WISTAR STRAIN RATTUS NORVEGICUS</td>
<td>265 - 267</td>
</tr>
<tr>
<td>13</td>
<td>Review Article and Clinical Experience: GRAVESâ€™ DISEASE AND THYROID STORM ATD Therapy, Formulas TS â€“ 41668, CS â€“ 7.3.7</td>
<td>268 - 275</td>
</tr>
</tbody>
</table>
ROLE OF SERUM NEURON SPECIFIC ENOLASE (NSE) TO DIFFERENTIATE ISCHEMIC STROKE FROM HEMORRHAGIC STROKE AND ITS CORRELATION WITH BRAIN DAMAGE VOLUME

ROLE OF SERUM NEURON SPECIFIC ENOLASE (NSE) TO DIFFERENTIATE ISCHEMIC STROKE FROM HEMORRHAGIC STROKE AND ITS CORRELATION WITH BRAIN DAMAGE VOLUME

Abstract

Stroke is an emergency condition requiring immediate procedure by a neurologist. Differentiating the type of stroke (infarct or hemorrhagic stroke) and determining the extent of brain damage at the onset of the seizure is an appropriate action to determine therapy and prognosis. Increased serum NSE level in stroke can be expected to replace CT scan in differentiating stroke types at the onset of the seizure during which CT scan remains unclear and to provide assistance in determining the extent of brain damage, particularly in areas where CT Scan and MRI are unavailable. The objective of this study was to examine and compare serum NSE level in ischemic and hemorrhagic stroke patients according to lesion volume, and to analyze correlation between serum NSE level and lesion volume in CT Scan as gold standard. We examined serum NSE level of 62 acute stroke patients, comprising 31 ischemic stroke patients and 31 hemorrhagic stroke patients 24-48 (35.7 ± 8.3) hours after onset. Serum NSE level in acute stroke patients varied between 1.1 - 36 (7.45 ± 6.5) ng/ml. Serum NSE level in ischemic stroke group varied between 1.1 - 36 (6.24 ± 6.09) ng/ml, while in hemorrhagic stroke patients it varied between 1.1 - 36 (8.66 ± 6.76) ng/ml. CT scan lesion volume in acute stroke varied between 2.5 - 77.5 (25.5 ± 20.2) ml, in which in ischemic stroke group it was varied between 2.5 - 50.8 (15.9 ± 14.9) ml and in hemorrhagic stroke group the variation was between 7.3 -77.5 (35 ± 20.5) ml. The difference of mean serum NSE level between ischemic and hemorrhagic stroke groups was found to be insignificant (p = 0.144). Significant positive correlations in serum NSE level between ischemic stroke and CT scan lesion volume (r = +0.993; p<0.001; Pearson test), and could be used to predict brain damage volume using NSE predictive model formula = 0.406 lesion volume, and also between serum NSE level in hemorrhagic stroke and CT scan lesion volume (r = +0.894; p<0.001; Pearson test), with NSE predictive model formula = 0.294 lesion volume. The whole cases (ischemic and hemorrhagic stroke) and CT scan lesion volume had significant positive correlation (r=+0.890; p<0.001; Pearson test), with NSE predictive model = 0.286 lesion volume. In conclusion, serum NSE level in acute stroke patients (24-48 hours) after onset can be used to estimate the extent of brain damage (lesion volume), but it cannot be used to differentiate the type of stroke.

Keyword : stroke, ischemic, stroke, hemorrhagic, stroke, neuron, specific, enolase, (NSE), brain, damage,

Daftar Pustaka :