**NIHSS MADE EASY BY HPUPM (26/7/2022)**

**DISEDAKAN OLEH : DR SUHYNA**

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|  | 1)In Malaysia  -There was a 4.9% increase in stroke incidence between 2008 and 2011among men but a 3.8%  fall among women  -36.2% were discharged independent while 53.1% had functional dependence  -Substantial increase in stroke incidence among those below 65 years old  -The largest increase of 53.3% in men aged between 35-39 years and 50.4% in women of  similar age group  2)The higher trend of stroke in this age group might be related to  -Increase in the burden of cardiovascular risk factors especially hypertension among young  at aged 18-39 years  -The prevalence of undiagnosed dyslipidemia among these age groups ranged from  40.0 to 48 hypertension (18.1-27.9%) and diabetes mellitus (9.5-12 4%)  **ACUTE STROKE IS A MEDICAL EMERGENCY**  Neurons Lost:  Per Stroke-1.2 billion  Per Hour-120 million  Per Minute-19 million  Per Second-32 000  **SPOT A STROKE-how????**  LEARN THE WARNING SIGNS AND **BE FAST**  **BE FAST**  **B**-BALANCE(loss of balance/headache/                        dizziness)  **E**-EYES (blurred vision)  **F**-FACE (one side of the face is drooping)  **A**-ARMS (arm of leg weakness)  **S**-SPEECH (speech difficulty)  **T**-TIME (time to call ambulance immediately)  **Lacunar infarct** - are small (<20 mm) infarcts in the distal distribution of deep penetrating vessels result from occlusion of one of the small penetrating end arteries result primarily from in situ microatheroma formation or liponyalinosis.  **Watershed infarct** - are ischemic lesions which are situated along the border zones between  the territories of two major arteries usually caused by hypoperfusion or decreased blood    **CLINICAL FEATURES & CLASSIFICATION**  In Malaysia widely used classification are:  **OXFORD classification** - clinical findings  **TOAST classification** - Based on aetiology  **OXFORD CLASSIFICATIONS:**   |  |  |  | | --- | --- | --- | | **TERM** | **CLINICAL FEATURES** | **VASCULAR BASIS** | | Total Anterior Circulation Syndrome **(TACS)** | \*Hemiparesis AND  \* Higher cortical dysfunction(dysphasia or visuospatial neglect) AND  \*Homonymous hemlanopia | Usually proximal middle cerebral artery(MCA) or ISA occlusion | | Partial Anterior Circulation Syndrome **(PACS)** | \*Isolated higher corticol dysfunction OR  \*Any two of hemiparesis,higher cortical dysfunction,hemianopia | Usually branch MCA occlusion | | Posterior Circulation Syndrome **(POCS)** | \*Isolated hemianopia(posterior cerebral artery (PCA)) brainstem or cerebellar syndromes | Occlusion of vertebral, basilar, cerebellar or PCA vessels | | Lacunar Syndrome **(LACS)** | \*Pure motor stroke OR  \*Pure sensory stroke OR  \*Sensorimotor stroke OR  \*Ataxic hemiparesis OR  \*Clumsy hand-dysarthria | Small penetrating artery occlusion,usually in tenticulostriate branches of MCA, or supply to brainstem or deep white matter |   **TOAST CLASSIFICATION**   |  |  |  | | --- | --- | --- | | **TERM** | **CLINICAL** | **RADIOLOGICAL FEATURES** | | Large-artery  Atherosclerosis | Signs of lesion in cortex (aphasia,apraxia,neglect),subcortex,cerebellum or brainstem | -CT/MRI shows lesion >1.5 cm in cortex,subcortex,cerebellum or brainstem compatible with the symptoms  -CT scan negative when performed shortly after onset | | Cardio-embolic | Signs of lesion in cortex (aphasia,apraxia,neglect),subcortex,cerebellum or brainstem | -CT/MRI shows lesion >1.5 cm in cortex,subcortex,cerebellum or brainstem compatible with the symptoms  -CT scan negative when performed shortly after onset | | Small-vessel  disease | Clinical signs of a lacunar syndrome (pure motor,pure sensory,sensorimotor,atactic hemiparesis or dysarthria-clumsy hand syndrome) | -CT/MRI shows lacunar infarction (lesion <1.5cm) compatible with the symptoms  -CT scan negative when performed shortly after onset |   **STROKE MIMICS**  Non-stroke condition presenting with stroke-like symptoms  1)Seizure/Post-Ictal Todd Paralysis  2)Complicated migraine  3)Functional Neurological or Conversion      Disorders  4)Hypoglycaemia/Hyperglycaemia      SevereHyponatremia/Metabolic.      Encephalopathy  5)Hypertensive Encephalopathy/PRES  6)Peripheral Vertigo: BPPV, Labyrinthitis,      Vestibular Neuronitis  7)Bell's Palsy  8)Other: Guillain Barre, Myasthenia Gravis,                  MS, Brain Tumour/Abscess,                  Encephalitis,Sepsis,Syncope Sent from my iPhone  **NHISS SCORE**  NIH Stroke Scale (NIHSS) + modified NIHSS (mNIHSS) – Peripheral Brain  MILD : <4 – NOT INDICATED FOR THROMBOLYSIS  **MODERATE : 5-24 – FOR THROMBOLYSIS**  SEVERE :Above 25 – NOT FOR THROMBOLYSIS(risk of bleed)  **WHEN ELSE FOR THROMBOLYSIS??**   1. Base on the code:      1. Code RED – stroke < 4-6 hrs (hyperacute) -**THROMBOLYSIS** 2. Code YELLOW – stroke 6-24 hrs -**THROMBOLYSIS**  AND   ELIGIBLE FOR THROMBECTOMY ALSO   1. Code GREEN – stroke > 24 hrs – Rehabilitation 2. ≤ 9hours wake up stroke (midpoint) 3. Severe Aphasia 4. Within window( <6 hrs)   DWI-ADL-FLAIR (from imaging)  WHEN ELSE ELIGIBLE FOR THROMBECTOMY??  When **cortical signs** appear – Aphasia   * Hemiparesis * Neglect * Homonymous hemianopia     **HOW SOON FOR THROMBECTOMY?**   * Within 24 hrs (walaupun > 9hrs midpoint stroke) * Large vessel occlusion * **\*MCA/ICA occlusion**/yellow code * Mild to moderate NHISS   **\***selalunya akan ada **cortical signs (aphasia/hemiparesis/homonymous hemianopia/neglect)**  \*thrombolysis might work as well  Once arrived at rescue, when is the best for thrombolysed stroke patient?  -within window  - DWI-ADL-FLAIR (imaging results)  GOLDEN TIME and state all these in referral letter when you want to refer stroke patient to Res-q   1. Time/onset of stroke 2. Quality of live before stroke 3. NHISS score   \*9 hours wake up stroke – GOLDEN hrs  Wake up stroke-midpoint sleep + 9hrs (mesti within 24 hrs)  Lepas 9 jam dari midpoint sleep – dah infarct,tissue not viable anymore, so no need  for thrombolysis or thrombectomy    When to start anti platelet therapy?   1. Bleeding risk 6% from thrombolysis-rpt CT scan after 24 hrs thrombolysis-if no bleeding   To start anti platelet   1. TIA - double antiply x 1/12.After 1/12, then reduced to single anti platelet only 2. NHISS score <6 – double antiply x 1/12.After 1/12, then reduced to single anti platelet only |  |
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