Steven-Johnsons Syndrome/Toxic Epidermal Necrolysis (SJS/TEN) Study in Indonesia

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Purpose

• To share the current situation of SJS/TEN study in Indonesia
• To share the HLA allele frequencies of SJS/TEN markers in the population
• To introduce preliminary data of SJS/TEN from several hospitals in Indonesia
Indonesia (Jakarta) – USA (Bethesda)

- Indonesia spans from Sabang to Merauke
  - The capital is Jakarta
- It takes at least 22 hours by shortest flight from Jakarta – Washington DC
Indonesian Population

- Indonesian population: 240 million (BPS, 2010), consists of ±300 ethnics

- Major ethnics (Ananta et al, 2013):
  - Javanese (J): 40.06%
  - Sundanese (S): 15.51%
  - Melayu (M): 3.7%
  - Bugis (BG): 2.7 %
  - Etc.
Current Situation of SJS/TEN Study in Indonesia

• Epidemiology:
  • No national epidemiological data
  • Very limited data --- Data is usually provided by request in some hospitals, but not easy to get the data quickly
    • Usage of traditional medical record (MR) rather than electronic one in most hospitals
    • Hospital recently use electronic MR, can not input all old MR

• Publication about SJS/TEN in Indonesia:
  • 1 published data in national journal – 1 hospital in Sumatra Island
  • 1 upcoming published data with limited period (2011-2013) in national journal – 1 hospital in Central Java
No reported genetic study of SJS/TEN, but 2 potential genetic markers for SJS/TEN were observed in 2 most major populations (Yuliwulandari et al, 2008):
--- HLA-B*58:01 (Allopurinol) = 4.17% (Javanese), 5.97% (Sundanese)
--- HLA-B*15:02 (Carbamazepine) = 16.7% (Javanese), 10.7% (Sundanese)

B*15:02 as a marker for Carbamazepin (CBZ)-SJS/TEN have been reported in many countries including Southeast Asian Countries

Comparison of B*15:02 frequency in Southeast ASIAN Countries

- Singapore Chinese (5.7%) (Lim et al, 2008)
- Singapore Malay (12.0%)
- Singapore Indian (8.3%)
- Malaysia Malay (15.7%) (Lim et al, 2008)
- Malaysia Chinese (5.7%)
- Thai (8.7%) (Romphruk et al, 2003)
- Indonesia Javanese (16.7%)
- Indonesia Sundanese (10.7%)
PRELIMINARY DATA OF SJS/TEN
Data of SJS/TEN from Several Hospitals in Indonesia

cADR: Cutaneous Adverse Drug Reaction

<table>
<thead>
<tr>
<th>Type of cADR</th>
<th>Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBZ-SJS/TEN</td>
<td>10</td>
</tr>
<tr>
<td>Other drugs-SJS/TEN</td>
<td>48</td>
</tr>
<tr>
<td>Other forms of cADR</td>
<td>41</td>
</tr>
</tbody>
</table>

[Map showing Indonesia and surrounding countries with red triangles indicating cases.]
Why It is not easy to find CBZ-SJS/TEN in Indonesia?

• CBZ is used in Psychiatric and Neurologic Diseases:
  • Psychiatric Diseases – not as a single drug
    • Acute manic
    • Bipolar disorder
    • Children: Attention Deficit/Hyperactivity Disorder (ADHD) and Conduct Disease
  • Neurologic Diseases – can be single drug
    • Partial and Generalized seizure
    • Neuropathic pain, Neuralgia trigeminal, Post herpes zoster, Hernia Nucleus pulposus, Low back pain

• There are 2 types of Health services in Indonesia:
  • Hospitals, includes distric and central hospitals
    • CBZ is effective and cheap, but Valproic Acid and Phenytoin is preferred by clinicians ---- frightened of side effect of CBZ !!!
  • Public Health Services
    • Knowledge limitation: Epilepsy~ Luminal and Phenytoin, rather than CBZ
Most Causative Drugs Causing SJS-TEN

1. Anti viral: Nevirapine
2. Entiepileptic: Carbamazepin
3. Antibiotic: Cephalosporin, Cotrimoxazol, Cyproflaxacine, Sulfadiazine, Amoxycillin, Antileprocy, Tetracyclin
4. Nonsteroid Anti Inflammatory Drugs: Ibuprofen, Aspirin, Mefenamic Acid, Paracetamol, Metampiron, Pyroxicam
5. Allopurinol
6. Chloroquin
7. Traditional Medicine
8. Unknown
Most Causative Drugs causing Other forms of cADR

**Causative drugs:**
1. Diuretic: Furosemid
2. Nonsteroid Anti Inflammatory Drugs: Paracetamol, Aspilet, Na Diclofenac, Metampiron, Ibuprofen
3. Antibiotics: Cyprofloxacin, Cefadroxil, Cefixim, Ceftriaxon, Erythromycin, Oral Anti Tuberculosis, Cotrimoxazole
4. Vitamin C
5. Antiviral: Efavirenz

**Other Forms of cADR**
- Maculopapular erruption
- Fixed Drug Erruption
- Erythroderma
Conclusion

• In Indonesia:
  • There is no sufficient epidemiology data of SJS/TEN at local, regional and national level ---- needs further study
  • There is no genetic study on SJS/TEN ---- needs further study
  • There is a lack of sufficient knowledge about drug and side effect, especially in Public Health Services ---- Further education/training program for health workers about drug of choice and drugs causing cADR and how to prevent it are needed.
Thank You