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DRUG-INDUCED STEVENS-JOHNSON SYNDROME IN MALAYSIA FROM 2011 UNTIL 2015: RETROSPECTIVE STUDY

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"May Allah reward you with goodness"

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ABSTRACT

Background: Based on the spontaneous adverse drug reactions (ADRs) reported in Malaysia, ADR related to cutaneous skin reaction it the most reported cases in 2015. Stevens-Johnson Syndrome (SJS) is among the cutaneous skin reaction that is rare but fatal, involving skin and mucous membrane following consumption of certain drugs mainly antiepileptic drugs such as carbamazepine and phenytoin (Suenaga et al., 2015). SJS is defined as skin detachment of less than 10% of the total body surface area (Cheng et al., 2016).

Objectives: This study was aimed to determine the pattern of SJS induced by the drug in Malaysia (2011-2015) in terms of a group of age, race, gender and extent of disease severity. Apart from that, this study is to analyse the incidence of drug-induced SJS and its severity in Malaysia from 2011 to 2015. The ADR associating factors and the relation with SJS' severity are also identified through this, study apart from to determine the common drugs that induce SJS reported in Malaysia from 2011 to 2015.

Methods: This is a retrospective study. The data was collected at Pharmacovigilance Section, National Pharmaceutical Regulatory Agency (NPRA). The total number of ADRs reports retrieved from Quest 2 database from the year of 2011 until the year 2015 is 2 011 cases. After the application of the exclusion and inclusion criteria, 661 cases were selected for statistical SPSS analysis.

Results: The female patient was found out to be slightly higher with ADRs reported with 50.5% as compared to the male patient. Most of the patients reported with ADR was Malay population (n=387, 58.5%). The age group that had the highest number of reported ADR was the patient aged between 31 to 45 years old (24.1%). It has been discovered by using a Kendall Tau-b that there were no association between the gender (n=483, $r\square$ = -0.040, p = 0.370), race (n=468, $r\square$ = 0.058, p = 0.175) and groups of age (n=484, $r\square$ = -0.033, p = 0.400) with the extent of severity. 49.2% (n=325) of the cases were classified as having severe SJS. Allopurinol was the highest drug reported to cause SJS which is 131 cases out of 661 cases, followed by carbamazepine (n=107, 14.80%) and phenytoin (n=73, 10.10%).

Conclusions: In conclusion, allopurinol has been identified to be the most common cause of SJS from the year 2011 until the year 2015 in Malaysia. Apart from that, it can be concluded that gender, race and age groups have no association with the extent of severity of SJS.

CHAPTER 1 INTRODUCTION

1.1 BACKGROUND

Adverse Drug Reactions (ADRs) reporting is a remarkable process that significantly helping and influencing the management and treatment of the patients in regarded disease condition and Malaysia is showing a positive development in improving in this pharmacovigilance area. ADRs reporting in Malaysia is showing an increasing trend which in 2009, Malaysian Adverse Drug Reaction Advisory Committee (MADRAC) received 5850 reports as compared to 2363 reports in 2005 (Hadi & Ming, 2011). Pharmacists play a major role in ADRs reporting as in 2009, they account for about 57.4% ADRs report as compared to physicians who only contribute for 22.9% (Hadi & Ming, 2011). However the report is commonly from those working in the public sector. In 2014, the ADRs spontaneous report from the pharmacist of community sector has only covered for about 0.02% from the total of 13 001 reports received (Mohd Sani, Mohd. Ali, Panicker, & Wan Abhar, 2016). Thus, Pharmacy Board Malaysia has recently permitted the reward of a Continuing Professional Development (CPD) point for each ADRs reported by pharmacist starting from January 2016 to encourage increasing quality and quantity of spontaneous ADRs reporting from pharmacist all over Malaysia (Mohd Sani et al., 2016). ADRs are identified and categorized based on most commonly accepted scales, namely World Health Organization ADRs scale (see **Table A-1**) and Naranjo's scale (see **Table B-2**) (Verma, Vasudevan, & Pragasam, 2013).