SFDA SAFETY SIGNAL

"A signal is defined by the SFDA as reported information on a possible causal relationship between an adverse event and a drug, the relationship being unknown or incompletely documented previously. Usually more than a single report is required to generate a signal, depending upon the seriousness of the event and the quality of the information. A signal is a hypothesis together with data and arguments and it is important to note that a signal is not only uncertain but also preliminary in nature"

7-31-2022

Saudi Food and Drug Authority (SFDA) – Safety Signal of Colistin and Risk of Stevens - Johnson Syndrome

The Saudi Food and Drug Authority (SFDA) recommends all health care professionals to be aware of the safety signal of Stevens - Johnson syndrome associated with the use of Colistin. The signal has been originated as a result of routine pharmacovigilance monitoring activities.

Introduction

Colistin is a cyclic polypeptide antibacterial agent belonging to the polymyxin group. Polymyxins work by damaging the cell membrane and the resulting physiological effects are lethal to the bacterium. [1] Stevens - Johnson syndrome is a rare but serious disorder that affects the skin, mucous membrane, genitals and eyes. It is usually caused by an unpredictable adverse reaction to certain medications. It is a medical emergency that requires treatment in hospital, often in intensive care or a burns unit. [2]

Methodology

Signal Detection team at the National Pharmacovigilance Center (NPC) of Saudi Food and Drug Authority (SFDA) performed a comprehensive signal review using its national database as well as the World Health Organization (WHO) database (VigiBase), to retrieve related information for assessing the causality between Colistin and the risk of Stevens - Johnson syndrome. [3] WHO-Uppsala Monitoring Centre (UMC) criteria have been used as standard for assessing the causality of the reported cases. [4]

Results

Case Review: The number of resulted cases for the combined drug/adverse drug reaction is ١٨ global Individualized Case Safety Reports (ICSRs) as of March 2022. [3] The causality assessment resulted in three probable case, five possible cases and five unlikely cases. Five cases were unassessable.

Data Mining: The disproportionality of the observed and the expected reporting rate for drug/adverse drug reaction pair is estimated using information component (IC), a tool developed by WHO-UMC to measure the reporting ratio. Positive IC reflects higher statistical association while negative values indicates less statistical association, considering the null value equal to zero. The result of (IC= 0.8) revealed a positive statistical association for the drug/ADR combination, which means "Stevens -

Johnson syndrome" with the use of "Colistin" have been observed more than expected when compared to other medications available in WHO database. [3]

Literature Review: The signal was detected from a retrospective case-non-case pharmacovigilance study entitled (Colistin-associated Stevens-Johnson syndrome and toxic epidermal necrolysis reactions). The study identified colistin and SJS/TEN adverse event reports from the Food and Drug Administration Adverse Event Reporting System (FAERS) and calculated effect estimates using OpenEpi. Colistin was identified as secondary suspect drug. [5]

Conclusion

The weighted cumulative evidences identified from causality assessment of the reported cases, and literature are sufficient to support a causal association between Colistin and the risk of Stevens-Johnson syndrome. Health regulators and health care professionals must be aware of this potential risk and it is advisable to monitor any signs or symptoms in treated patients.

Report Adverse Drug Events (ADRs) to the SFDA

The SFDA urges both healthcare professionals and patients to continue reporting adverse drug reactions (ADRs) resulted from using any medications to the SFDA either online, by regular mail or by fax, using the following contact information:

National Pharmacovigilance Center (NPC)
Saudi Food and Drug Authority-Drug sector
4904 northern ring branch rd
Hittin District
Riyadh 13513 – 7148
Kingdom of Saudi Arabia
Toll free number: 19999
Email: NPC.Drug@sfda.gov.sa

References:

1. Jazeera Pharmaceutical Industries (JPI). (2017).Saudi Summary of Product Characteristics (SPC) of Colistin (Colistin JPI) ® (retrieved from: EURS). [Accessed 3/26/2022]
2. nhs.uk. 2022. Stevens-Johnson syndrome. [online] Available at: <https://www.nhs.uk/conditions/stevens-johnson-syndrome/> [Accessed 3/26/2022].
3. Vigilyze.who-umc.org. 2021. [online] Available at: <https://vigilyze.who-umc.org/> [Accessed 5/17/2022].
4. Uppsala Monitoring Center (UMC) (2022), The use of the WHO-UMC system for standardized case causality assessment; Available at <https://www.who.int/medicines/areas/quality_safety/safety_efficacy/WHOcausality_assessment.pdf?ua=1> [Accessed 5/17/2022]
5. Tang, R., Lopes, V. and Caffrey, A., 2022. Colistin-associated Stevens-Johnson syndrome and toxic epidermal necrolysis reactions: a retrospective case-non-case pharmacovigilance study. Expert Opinion on Drug Safety, pp.1-6.