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"

9-8-2021

Saudi Food and Drug Authority (SFDA) – Safety Signal of Colchicine and the Risk of Pneumonia

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

Introduction

Colchicine capsules are indicated for prophylaxis of gout flares in adults. Colchicine's effectiveness as a treatment for gout has been postulated to be due to its ability to block neutrophil-mediated inflammatory responses induced by monosodium urate crystals in synovial fluid. Colchicine disrupts the polymerization of β-tubulin into microtubules, thereby preventing the activation, degranulation, and migration of neutrophils to sites of inflammation. Colchicine also interferes with the inflammasome complex found in neutrophils and monocytes that mediates interleukin-1β (IL-1β) activation. [1] Bacterial pneumonia is caused by a pathogenic infection of the lungs and may present as a primary disease process or as the final, fatal disorder primarily in an individual who is already debilitated. The most consistent presenting symptom of bacterial pneumonia is cough productive of sputum. Antibiotic treatment is the mainstay of drug therapy for bacterial pneumonia. [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 Colchicine and the risk of pneumonia. [3] We used the WHO-Uppsala Monitoring Centre (UMC) criteria 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 are 40 global ICSRs as of March 2021 [3]. One case was excluded due to duplication. Most cases concern male patients. The reviewers have extracted and assessed the causality for all ICSRs (39 ICSRs). Among the

reviewed cases, there was one probable case, three possible cases and three unlikely cases. Thirty-two cases were not assessable due to lack of information.

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. The results of (IC= -1.2) revealed a negative statistical association for the drug/ADR combination, which means "pneumonia" with the use of "Colchicine" have been observed less than expected when compared to other medications available in WHO database. [3]

Literature Upon conducting a literature search, two relevant studies were found summarized as below:

A randomized, double-blind trial was conducted to assess the efficacy and safety of low-dose Colchicine after myocardial infarction. During the trial, pneumonia was reported as serious adverse event in 0.9% of the patients in the colchicine group and in 0.4% of those in the placebo group (P=0.03). [5] Another study of retrospective cohort design was conducted to evaluate the association between Colchicine and pneumonia. It concluded that gout patients taking colchicine are at increased risk of developing pneumonia compared with gout patients who do not take colchicine. [6]

Conclusion

The weighted cumulative evidences identified from causality assessment of the reported cases, and literature are sufficient to support a causal association between Colchicine and the risk of pneumonia. 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:

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2. Emedicine.medscape.com. 2021. Bacterial Pneumonia: Practice Essentials, Background, Pathophysiology. [online] Available at: <https://emedicine.medscape.com/article/300157-overview> [3/9/2021].
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4. Uppsala Monitoring Center (UMC) (2020), 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 3/13/2021].
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