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"

09-08-2022

Saudi Food and Drug Authority (SFDA) – Safety Signal of Tetanus Toxoid (TT) Vaccine and Risk of Cellulitis

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

Introduction

Tetanus Toxoid (TT) vaccine is prepared from tetanus toxin detoxified with formaldehyde and purified. The immune response is activated as from the second injection; it is enhanced after the third one and persists for 5 to 10 years after the fourth one. [1] Cellulitis is a common bacterial skin infection that causes redness, swelling, and pain in the infected area of the skin. [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 Tetanus Toxoid (TT) vaccine and the risk of cellulitis. [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 search in the local database resulted in one unassessable case due to insufficient information available. Globally, the number of resulted cases for the combined drug/adverse drug reaction is 165 global Individualized Case Safety Reports (ICSRs) as of May 2022. Cases with completeness score >0.8 were extracted and assessed (n= 16). [3] The causality assessment resulted in fifteen possible cases and one unassessable case.

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= 2.6) revealed a positive statistical association for the drug/ADR combination, which means "cellulitis" with

the use of “Tetanus Toxoid (TT) vaccine” have been observed more than expected when compared to other medications available in WHO database. [3]

Literature: Upon conducting a literature search, one case report was found. A case of 9-year-old boy suffered from open wound injury. He presented signs and symptoms of cellulitis two days after receiving the tetanus prophylaxis vaccine. He was treated with broad-spectrum antibiotics. [5]

Conclusion

The weighted cumulative evidences identified from causality assessment of the reported cases, and literature are sufficient to support a causal association between Tetanus Toxoid (TT) vaccine and the risk of cellulitis. 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. SANOFI PASTEUR. (2010). Saudi Summary of Product Characteristics (SPC) of Tetanus toxoid (TETAVAX) ® (retrieved from: EURS). [Accessed 5/26/2022]
2. 2022. [online] Available at: <https://www.cdc.gov/groupastrep/diseases-public/Cellulitis.html#:~:text=Cellulitis%20is%20a%20common%20bacterial,Many%20Bacteria%20Can%20Cause%20Cellulitis> [Accessed 5/26/2021].
3. Vigilyze.who-umc.org. 2021. [online] Available at: <https://vigilyze.who-umc.org/> [5/26/2022].
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 5/26/2022].
5. AlBassri, T., AlShaibi, S., Khan, F. and Masud, N., 2020. A rare case of cellulitis after tetanus toxoid (TT) vaccination. Journal of Family Medicine and Primary Care, 9(3), p.1762.