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"

05-08-2024

Saudi Food and Drug Authority (SFDA) – Safety Signal of Bisoprolol and the Risk of Atrioventricular block

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

Introduction

Bisoprolol is a medication used to manage and treat hypertension and congestive heart failure. The drug belongs to the selective beta-blocker class of drugs and acts explicitly as a cardioselective beta1-blocker (B1-blocker). [1] Atrioventricular block represents a delay or disturbance in the transmission of an impulse from the atria to the ventricles. [2] The aim of this review is to evaluate the risk of Atrioventricular block associated with the use of Bisoprolol and to suggest regulatory recommendations if required.

Methodology

Signal Detection team at SFDA performed a signal review using National Pharmacovigilance Center (NPC) database, and World Health Organization (WHO) database, VigiBase, with literature screening to retrieve all related information to assess the causality between Atrioventricular block and Bisoprolol use. The search conducted on May 2024.

Results

Case Review: Signal detection team at SFDA have searched Saudi national database and WHO database to find individual case safety reports (ICSRs). The WHO database resulted in 241 global case-reports while no local cases found. The authors used signal detection tool (Vigilyze) to retrieve all reported global cases. [3] Authors also applied WHO-UMC causality assessment criteria on ICSRs with completeness score 1.0 (n=30 cases). [4] Among them, 29 cases of Atrioventricular block were probably or possibly linked to Bisoprolol while the remaining 1 case assessed as unlikely.

Datamining: 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 IC result is (4.8) for this drug/ADR combination which reflects strong positive statistical association. [4]

Conclusion

The weighted cumulative evidence identified from assessed cases and disproportionality analysis are suggestive for causal association between Bisoprolol and Atrioventricular block. Health care professionals and health regulators must be aware of the potential risk in drug recipients.

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- Bazroon, A. A., & Alrashidi, N. F. (2023). Bisoprolol. In StatPearls. StatPearls Publishing. [Accessed: 18/05/2024].

2- Kashou, A. H., Goyal, A., Nguyen, T., Ahmed, I., & Chhabra, L. (2023). Atrioventricular Block. In StatPearls. StatPearls Publishing. [Accessed: 18/05/2024].

3- Vigilyze.who-umc.org. 2024. [online] Available at: https://vigilyze.who-umc.org/ [Accessed: 20/05/2024].

4- World Health Organization WHO (2013). WHO-UMC system for standardised case causality assessment. Available at https://www.who.int/publications/m/item/WHO-causality-assessment [Accessed: 20/05/2024].