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 m ore 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"

29-4-2025

Saudi Food and Drug Authority (SFDA) – Safety Signal of Escitalopram and the Risk of Cardiac arrest

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

Introduction

Escitalopram, the (S)-enantiomer of citalopram, is a highly selective serotonin reuptake inhibitor. This medication is approved for treating major depressive disorder (unipolar) in adults and adolescents (ages 12 to 17) for both acute and maintenance phases. Recently, its been approved for the treatment of generalized anxiety disorder in both adults and children aged 7 and older.[1] Cardiac arrest is the sudden cessation of cardiac activity so that the victim becomes unresponsive, with no normal breathing and no signs of circulation. If corrective measures are not taken rapidly, this condition progresses to sudden death. [2] The aim of this review is to evaluate the risk of cardiac arrest associated with the use of Escitalopram 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 Cardiac arrest and Escitalopram use. The search conducted on February 2025.

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 237 global case-reports no case found. The authors used signal detection tool (Vigilyze) to retrieve global cases. [3] Authors also applied WHO-UMC causality assessment criteria on the extracted ICSRs with completeness score 0.8 and above (15 cases). [4] Among them, 8 cases were probably and possibly linked to Escitalopram, while 5 cases assessed as unlikely and the remaining 2 cases were unable to be assessed due to lack of important information.

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 (1.3) for this drug/ADR combination which reflects positive statistical association. [3]

Literature: The signal team searched the literature to find related publications linking this ADR to Escitalopram. The search showed two published articles linking cardiac arrest to the use of Escitalopram. [5,6]

Conclusion

The weighted cumulative evidence identified from assessed cases, disproportionality analysis and literature might be suggestive for causal association between Escitalopram and cardiac arrest. 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- Landy K, Rosani A, Estevez R. Escitalopram. [Updated 2023 Nov 10]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557734/

2- Patel K, Hipskind JE. Cardiac Arrest. [Updated 2023 Apr 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK534866/

3- Vigilyze.who-umc.org. 2025. [online] Available at: https://vigilyze.who-umc.org/ .

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 .

5- Aakjær, M., De Bruin, M. L., Kulahci, M., & Andersen, M. (2021). Surveillance of antidepressant safety (SADS): active signal detection of serious medical events following SSRI and SNRI initiation using big healthcare data. *Drug Safety*, *44*, 1215-1230.

6- Kumar, S., Gayle, J. A., Mogalapalli, A., Hussain, S. T., & Castiglioni, A. (2020). Escitalopram Induced Torsade de Pointes and Cardiac Arrest in a Patient With Surgically Treated Mitral Valve Prolapse. *Cureus*, *12*(12), e11960. https://doi.org/10.7759/cureus.11960