

Metoclopramide induced isolated laryngeal spasm during the treatment for an ovarian germ cell tumor

Altaf Ali*; Nizar Ayanikkaden

***Corresponding Author: Altaf Ali**

Lead Medical Oncologist, Department of Medical Oncology, Burjeel Hospital, Muscat, Oman.

Email: draltafali@gmail.com

Abstract

Metoclopramide is one of the commonly used antiemetic drugs for the prevention of chemotherapy-induced nausea and vomiting, it is particularly useful as a cocktail for highly emetogenic chemotherapeutic drugs. The drug has been used for decades and has been a backbone of the emetogenic protocols till newer agents came into use. Here we are presenting a case of a 20 years old girl who was being treated with a BEP regimen (Bleomycin, Etoposide, and Cisplatin) for an Ovarian Germ cell tumor. During the treatment, she developed severe choking after the use of IV metoclopramide restricting its further use. Initially, it was related to ETOPOSIDE until the story was unfolded. Our case demonstrates how a single isolated symptom could be a manifestation of a life-threatening extrapyramidal adverse event. In our knowledge, this happens to be the first case in an oncology setting where an Isolated laryngeal dystonia presented as an extrapyramidal adverse event.

Keywords

dystonia; metoclopramide; bep; ovarian tumor; cinv (chemo induced nausea and vomiting)

Case Presentation

Here we are presenting a case of 20 years' female, Non- Omani national, unmarried without any medical comorbidity. The Patient was recently operated for a Left Ovarian germ cell tumor with fertility-preserving surgery and after 3 weeks from her surgery patient was initiated on BEP protocol for 5 days. During her 1st cycle routine premedication was given with a highly antiemetogenic regimen comprising of Capsule Aprepitant (Neurokin inhibitor), IV Dexamethasone, and IV Ondansetron, along with this she was kept on PRN doses of Metoclopramide for nausea and vomiting. For her first cycle, she required 6 PRN doses of IV Metoclopramide 10 mg each time without any noticeable symptoms. Her 2nd cycle was started after 3 weeks of the 1st cycle with the same antiemetic regimen. The first day went normal as usual, on

the second day one hour after finishing Bleomycin and Etoposide infusion she was given a stat dose of IV metoclopramide 10 mg for nausea. Within 5 minutes her Father came and informed the nursing staff that patient is feeling some kind of irritation in her throat and uneasy sensation all over the body. On asking no other symptoms were present. Even clinical examination was unremarkable except for mild anxiety related to this sensation. Symptoms lasted for few minutes and then settled by themselves. We ascribed it to etoposide and in the first instance and never thought of Metoclopramide as we know Etoposide is known to cause Type 1 hypersensitivity reactions during the infusion or Immediately after the infusion [1].

8 hours later on the same day, she received 2nd dose of metoclopramide and developed a severe choking sensation and difficulty in breathing. The patient was fully conscious but was holding her neck and trying to breathe. It was difficult for her to talk and she was seen clenching her hands. Clinically saturation was 96%, no wheeze was audible, BP 90/70 with a pulse rate of 110 beats per minute, regular and full volume. No visible movements in the tongue and other parts of the body were seen. Neurological examination was grossly normal. No neck spasm was present. Looking at the clinical spectrum and exposure to Metoclopramide diagnosis of Laryngeal dystonia was made and She was immediately started on oxygen support and following drugs were administered IV chlorpheniramine 10 mg and IV hydrocortisone 100 mg stat. Within minutes everything normalized and she continued the rest of the cycles without metoclopramide. During the 3rd and 4th cycle no metoclopramide was given and the patient never complained about any such symptom. The adverse drug form was filled and send to the reporting authority in the hospital. We were fortunate to recognize this entity at the earliest thus preventing the need for an emergency tracheostomy.

Discussion

Adverse drug reactions are not that common but when they happen they could turn out to be a nightmare for the treating physician. They can happen at any time either during the first dose or mostly after a cumulative dose over a time. The adverse drug reaction usually limits the drug use for its further use thus causing a major blow to the ongoing therapy. Monitoring of adverse drug reactions in the post-marketing analysis forms a very important part of drug surveillance [2].

There are three types of adverse drug reactions,

1. Dose-related: Dose-related reactions may or may not be serious and usually they are common. They can happen during the single-dose exposure but mostly happen when multiple doses are given over time.
2. Allergic drug reactions: They are not dose-related and usually happen when a person is already exposed to the drug.
3. Idiosyncratic drug reactions: This type is usually unpredictable and is linked to the pharmacogenomic trait of an individual [3].

Metoclopramide hydrochloride belongs to the class of drugs called dopamine receptor antagonists [4]. Its primary action is to block peripheral and central dopamine activity which is the basis for its an-

tiemetic action. The drug has been used over the decades in treating nausea and vomiting including CINV with excellent results. However, due to its antagonistic actions on dopamine receptors mainly in the central nervous system at the level of basal ganglia, it creates dopamergic cholinergic imbalance resulting in the blockage of dopamine transmission [5]. This causes excess release of acetylcholine resulting in its adverse events mainly extrapyramidal side effects [6,7]. They may present with a myriad of symptoms and signs including Tardive dyskinesia, Akathisia, Orofacial dyskinesia, Laryngeal spasms, etc. Presentation of such events could be mild or take the form of severe life-threatening situations. Mostly a group of symptoms with demonstrable multiple clinical signs occurs during an episode. Isolated events are rare and have been documented in the literature particularly in those with underlying co-morbidities like Asthma and Ischemic heart disease [8]. Early recognition and intervention are the keys to management [9]. There is a reported incidence of 2% in oncology patients who have such symptoms after exposure to antidopaminergic agents [10].

Our case report demonstrates how a single symptom of dystonia could be a manifestation of a life-threatening extrapyramidal adverse event. It clearly shows how one should be vigilant each time antidopaminergic drugs like metoclopramide is given to the patient. It also shows we should be careful when the drug is used over time.

Conclusion

Presentation of adverse drug reactions may not have a myriad of symptoms or clinical signs but can present as an isolated clinical event. A treating physician needs to be focused to pick up and analyze these isolated events thus preventing a major disaster. In our knowledge, there are only few case reports of Metoclopramide induced Laryngeal dystonia but all of them have been associated with other symptoms like neck rigidity, rolling off eyes and other abnormal movements whereas our patient presented with an isolated symptom manifesting as Laryngeal spasm. Our case highlights the importance of clinical acumen in diagnosing an adverse reaction at the earliest and thus preventing a major disaster.

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Consent for publication: Written consent was obtained from the patient.

Ethical approval: Ethical approval is not required at our hospital to publish any case report.

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Authors Information: Altaf Ali*; Nizar Ayanikkaden
Department of Medical Oncology, Burjeel Hospital Muscat, Oman.

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