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A RARE ADVERSE DRUG REACTION TO INTRAVENOUS ONDANSETRON: A CASE REPORT

Anaesthesiology

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ABSTRACT

Ondansetron belongs to the 5HT3 receptor antagonists family. It is widely used in the prevention and treatment of perioperative nausea and vomiting(PONV). This case is that of a 23 year old male patient posted for split thickness skin graft(STSG) of a nonhealing wound on right foot. Patient had history of Road traffic accident (RTA) a month back that caused depressed frontal bone fracture for which frontal bone elevation was done immediately under general anaesthesia (GA). Post surgery patient developed right hemiplegia and was on oral antiplatelets and seizure prophylaxis for a month. Patient was taken to operation theatre and preoperative vitals were recorded which were within normal limits. He was given Inj.ondansetron 4mg iv slow bolus as premedication. Within a minute of administration, he became unresponsive and apneic. Bag and mask ventilation(BMV) was promptly begun and patient was successfully revived in the next 10 mins. So we conclude that the easy availability and accessibility of these drugs has led to their extensive use as premedication without contemplating about their life threatening complications.

KEYWORDS

Ondansetron, 5HT3 antagonists, PONV, STSG, BMV, GA

CASE REPORT

A 23 year old male patient was posted for split thickness skin graft for a non healing ulcer on the right foot.

Patient was apparently normal 1 month back then he met with an RTA due to which he had depressed frontal bone fracture ,right femur fracture and multiple wounds on his body. Frontal bone elevation was operated under General Anaesthesia and in the next sitting femur fracture under lower limb blocks. Patient developed right sided hemiparesis post neurosurgery. An acute nonhaemorrhagic infarct in the left lentiform and caudate nucleus was seen in MRI brain. Patient was on tablet levetiracetam 500mg and aspirin 150mg.No other known comorbidities. Patient was considered fit for anesthesia under ASA III with high risk consent.

On the day of surgery, preoperative vitals were stable and patient was shifted to OT. Standard ASA monitors were attached and 20g iv cannula secured and IV fluid RL started. He was administered Inj.ondansetron 4mg iv as slow bolus.Within a minute, patient became apneic, unresponsive to oral commands and deep pain stimulus, developed tachycardia (heart rate 150/min- sinus rhythm) and desaturated upto Spo2 of 65%. Peripheral pulses were felt and BP 140/90 mmhg. Effective Bag and mask ventilation (BMV) was promptly started and SpO_2 was brought up to 100% . His pupils were mid dilated and sluggishly reactive to light. We suspected it to be an anaphylactic reaction to ondansetron and inj. Dexamethasone 8mg iv and inj.hydrocortisone100mg iv were given stat . After 5 mins of BMV, patient started spontaneous breathing but tidal volume was inadequate so breathing was assisted for the next 5mins. On auscultation normal vesicular breath sounds were audible bilaterally. This lasted for 10mins, after which he regained consciousness and returned back to his preoperative state.

He was shifted to HDU(High dependency unit) for observation and was discharged 48hours later without any similar episodes.

Measures were taken to prevent recurrence and adverse drug reaction(ADR) notified.

Patient denied having any known food or drug allergies. No history of previous exposure to ondansetron or any drugs from the 5HT3 antagonists group. No history of similar incidents in the past.

DISCUSSION

Serotonin stimulates 5HT3 receptors present in the area postrema of the brain(site of CRTZ) and initiates vomiting reflex which is blocked by 5HT3 antagonists like ondansetron. The most common sideffects are headache and constipation[7]. But it is also associated with unusual adverse effects which can even be life-threatening as mentioned below.

In 2015, Rucha etal reported a severe dystonic reaction within 30 minutes of administration of ondansetron to a patient who underwent uneventful laproscopic cholescystectomy under general anaesthesia. [1]

Chandrakala.R , Vijayashankara .C.N etal has reported a case of fatal ventricular tachycardia after administration of ondansetron in a patient who had presented with vomiting and abdominal pain with no remarkable past medical history[4]. Haferman.M.J, Namdar. R etal showed in their study that when ondansetron is given to patients with cardiovascular disease with one or more risk factors for torsades de pointes, it increased the QTc interval upto 120 minutes after administration [5].

Brygger and Herrstedt suggested that QT prolongation is a class adverse effect of 5HT3 antagonists.[2]

Macachor J.D etal reported a case of ondansetron induced oculogyric crisis which manifested as upward and outward deviation of the eyeballs with limb dystonia and plantar flexion.[3]

Sharma and Raina observed generalized tonic clonic seizures in a patient with metastatic breast cancer when ondansetron was administered with chemotherapy.[6]

As per Naranjo's causality assessment scale,our adverse drug reaction was given a score 5 indicating that the reaction could be probable.[8]

CONCLUSION

Even though life threatening complications with ondansetron are not very common, we must use it judiciously and in a controlled setup. We must be adequately equipped to deal with such unforeseen circumstances as in our case where the patient was successfully resuscitated. We also want to emphasize on the fact that this was a preventable complication if we had used other premedicative drugs such as dexamethasone.

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