

Uncontrolled Severe Vomiting in the Post Operative Period following an Emergency Laparotomy for Appendicectomy on Third Post Operative Day

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Abstract: *In routine pre anaesthetic evaluation, history of migraine and motion sickness is often not elicited. These entities can lead to trouble some post operative nausea and vomiting. In this study we discuss what went wrong initially and the subsequent remedial measures we resorted to get out of the mess.*

Keywords: Post operative nausea and vomiting, Metoclopramide, Ondansetron, Migraine, Motion sickness, Allergic rhinitis

Abbreviations: Inj – Injection, iv- Intravenous, i.m- Intramuscular, ET- EndoTracheal, bid- twice daily, tid- thrice daily, sos- if necessary, ECG- Electrocardiogram, NIBP- Non invasive Blood pressure, Et CO₂- End tidal CO₂, SpO₂- Saturation of Peripheral Oxygen.

1. Introduction

Emergency laparotomies for acute abdomen are routine procedures at all major hospitals. Nausea and vomiting are common complications in the post operative period following a laparotomy. Usually, antiemetics, H₂ receptor antagonists/ proton pump inhibitors are used to tackle and minimize this problem.

We, hereby discuss a case in a 35 year old female who landed up with severe projectile vomiting and nausea on the third post operative day in spite of treatment with Ranitidine and Ondansetron and also discuss what went wrong in the pre operative evaluation and post operative management of the patient.

2. Case Details

A 35 year old female, moderately obese was posted for an emergency laparotomy for an acute abdomen. The plan of anaesthesia was General Anaesthesia and the initial plan of surgical approach was laparoscopic appendicectomy.

After a routine pre operative evaluation, patient was taken to the operation theatre. Inj. Ranitidine- 50 mg i.v and Inj. Ondansetron 8 mg i.v were given as premedication. Patient was induced later with 100 mg Tramadol i.v, 0.2 mg Glycopyrrrolate i.v, 100 mg Propofol i.v, 100 mg Lignocaine i.v and intubated with 100 mg Suxamethonium i.v with an appropriate ET tube.

The maintenance of anaesthesia was with Oxygen + Nitrous oxide + Inj. Vecuronium as a maintenance relaxant + Sevoflurane as inhalational agent. What started as a laparoscopy was subsequently converted into open appendicectomy due to technical difficulties. Rest of the

operative procedure and recovery from anaesthesia were uneventful.

ECG, NIBP, EtCO₂, SpO₂ were the monitors used during anaesthesia. Inj. Tramadol 50 mg i.v bd was continued for post operative analgesia. The patient was treated in the post operative period with i.v fluids and the following treatment.

- Inj. Cefotaxime 1 gm bid
- Inj. Metronidazole 500 mg i.v tid
- Inj. Amikacin 500 mg i.v bid
- Inj. Ranitidine 50 mg i.v bid
- Inj. Ondansetron 8 mg i.v bid
- Inj. Diclofenac 75 mg i.m sos.

The immediate post operative period and the first two post operative days were uneventful. Oral feeds were not started on the first and second post operative days in view of absent bowel sounds (peristalsis) and the finding of multiple adhesions in the peritoneal cavity. Serum electrolytes were evaluated and were within normal limits.

On the third post operative day morning, as there was peristaltic activity, clear fluids were started in the morning and four hours after taking clear liquids, patient had a cup of tea. Around afternoon, half an hour after taking tea and five hours after commencement of oral feeds, patient started complaining of severe nausea with headache both in the fronto temporal and occipital region and had repeated vomiting around 6-8 times in the following four hours. Repeat doses of Inj. Ranitidine and Ondansetron did not offer any relief.

At this point, the anaesthetist was called to evaluate the patient. A repeat detailed evaluation of the patient revealed that patient suffered from the triad of migraine, motion sickness and allergic rhinitis with constipation for which she

was not on any regular medication. We revised the treatment again and replaced and removed the possible culprits viz., Tramadol and Metronidazole from the treatment.

Inj. Clindamycin was introduced in place of Metronidazole for anaerobic coverage and Inj. Ketorolac 2 cc i.m was introduced in place of Tramadol. Ondansetron was replaced with Inj. Metoclopramide in the treatment. Isolyte-M (Darrow's solution) 500 ml was added to already administered i.v fluids.

The patient improved dramatically. Nausea, vomiting and headache disappeared. Ketorolac and Metoclopramide were continued on the third, fourth and fifth post operative days. On the fifth post operative day, clear liquid feeds were restarted and by the evening, milk based feeds were instituted as well. On the sixth day, soft diet was started and the patient was discharged on the seventh post operative day without any problem.

The patient was advised to take Tab. Rizatriptan 10 mg (Maxalt- RPD-MSD MERCKE) as a prophylactic for any future attacks of migraine along with tablets of Metoclopramide and Paracetamol.

3. Discussion

Migraine, motion sickness and allergic rhinitis are histamine mediated entities and usually exist in combination or as isolated entities.

Routine pre anaesthetic evaluation in many centres focuses more on Diabetes, Hypertension, Ischemic heart disease and Bronchial asthma and Thyroid abnormalities. Hardly any attention is paid to migraine and motion sickness which can wreak havoc in the post operative period especially after an emergency laparotomy.

Failure to elicit their history at pre anaesthetic check up can lead to severe nausea and vomiting in the post operative period. In this case, use of culprits like Tramadol and Metronidazole worsened the scenario in the post operative period. There were no problems for the first two days of post operative period because nothing oral was given. Starting the oral feeds on the third post operative day triggered severe vomiting and nausea with headache and was worsened by concomitant use of Tramadol, Metronidazole and Ondansetron.

In this patient, Ondansetron rather than relieving nausea and vomiting, aggravated nausea with severe headache, thereby triggering a migraine type attack which led to projectile vomiting and severe nausea. Ondansetron is not an appropriate antiemetic in migraine and is contraindicated in patients with migraine because of its serotonin antagonist properties.

The best drug for nausea and vomiting with(in) migraine is still Metoclopramide, which is used nowadays rarely because of the fear of extrapyramidal reactions and incidents of sudden apnea following its i.v administration. In the event of a migraine headache, narcotics cannot be used because they can themselves trigger nausea and vomiting.

The best NSAID to treat headache is Ketorolac and it is superior to Diclofenac, Aceclofenac, Piroxicam and Lornoxicam. Hence, Ketorolac was used in this case to relieve headache.

Isolyte- M(Darrow's solution) is a rich source of potassium (35meq/l) and counters post operative ileus following emergency laparotomies due to hypokalemia, which is a common event.

4. Conclusion

Especially in females, who are on the heavier side, it is always prudent to elicit a history of migraine, motion sickness, allergic rhinitis and constipation, as all these above factors can lead to ileus and increased intraabdominal tension and can produce unsuspected nausea and vomiting in the post operative period in susceptible patients.

In patients with a triad of migraine, motion sickness and constipation, it is always better to avoid nausea inducing drugs like Metronidazole, Tramadol and Narcotics. Ondansetron is a very poor choice as an antiemetic in patients with migraine and can worsen migraine headaches. Metoclopramide, Ketorolac and Isolyte-M are the best choices in the post operative period to prevent such unsuspected scenarios.

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