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(CASE REPORT)

A case of anaphylactic reaction to oxytocin in a parturient undergoing emergency caesarean section

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Abstract

Anaphylaxis to oxytocin is a rare but critical complication that can arise during labor and delivery [1], necessitating rapid recognition and management. We describe the case of a 20-year-old term primigravida with gestational hypertension who underwent an emergency lower segment caesarean section (LSCS) due to fetal distress. After successful spinal anesthesia with 0.5% bupivacaine, an infusion of 10 U oxytocin was initiated immediately following the delivery of the infant. Shortly thereafter, the patient developed acute respiratory distress, hypotension, and swelling of the lips and tongue, which progressed to bradycardia and a drop in oxygen saturation. Emergency intubation was performed due to significant airway edema, and resuscitation included intravenous adrenaline, atropine, hydrocortisone, pheniramine, and deriphylline. The surgical procedure concluded uneventfully, and the patient was transferred to the ICU for mechanical ventilation. She was extubated the following day and discharged five days later without complications. This case underscores the rare occurrence of anaphylaxis due to oxytocin administration. It highlights the need for vigilance and preparedness for allergic reactions in obstetric settings, as well as the importance of having alternative uterotonics available.

Keywords: Oxytocin; Anaphylactic Reaction; Airway Edema

1. Introduction

Oxytocin is considered an uncommon cause of severe allergic reactions during labor and delivery. Here, we report a rare case of an anaphylactic reaction to oxytocin in a parturient undergoing emergency caesarean section under spinal anesthesia.

2. Case report

A 20 years old primigravida with 40 weeks + 1 day of gestation with gestational hypertension was posted for emergency lower segment cesarean section (LSCS) in view of fetal distress under spinal anaesthesia. The patient was adequately preloaded, and then 2cc of 0.5% hyperbaric bupivacaine was administered into the subarachnoid space at the L3-L4 level, achieving the desired block. Inj. Oxytocin 10U infusion was started as soon as the baby was out and Inj. Oxytocin 10U IM was also given subsequently. Soon after this patient started complaining of difficulty in breathing. There was no obvious wheezing or crepitations. Patient went into sudden hypotension which did not respond to rapid infusion of crystalloid or ephedrine. There was swelling in the patient's lips and tongue soon after which patient went into bradycardia with drop in saturation for which emergency intubation was done to secure patient's airway as there was significant airway edema. Patient was resuscitated with intravenous Inj. Adrenaline and Inj. Atropine. Intravenous Hydrocortisone, Pheniramine and Deriphylline were also given. Rest of the surgical procedure was uneventful and

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patient was shifted to ventilator ICU for post-operative mandatory mechanical ventilation. Patient was extubated the following day as airway edema had settled and patient was hemodyanmically stable. Patient was discharged after 5 days without further comlications.

3. Discussion

Oxytocin is widely recognized for its role as a uterotonic agent. Certain cardiovascular effects of oxytocin such as reducing blood pressure, decreasing cardiac contractility and heart rate, modulating parasympathetic activity, and promoting vasodilation can lead to notable side effects that resemble cardiac anaphylaxis[2]. This creates an additional challenge in diagnosing and managing women with suspected or confirmed allergic reactions. The potential for cross-reactivity between latex and oxytocin makes it prudent to avoid latex-containing products in women with oxytocin allergy. Steroid administration can reduce the risk of severe allergic reactions[3]. It highlights the need for vigilance and preparedness for allergic reactions in obstetric settings, as well as the importance of having alternative uterotonics available.

4. Conclusion

Although oxytocin is a rare cause of anaphylaxis, reports suggest that oxytocin may trigger an allergic response or interact with other antigens, such as latex, potentially due to structural similarities between oxytocin and certain latex proteins. Further research is needed to clarify whether oxytocin itself acts as an allergen or if it merely enhances the immune response to other antigens. Use of alternative uterotonics and preparedness for the aggressive management of anaphylaxis is a cornerstone in the management of such patients.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that there are no conflicts of interest related to this case report. No funding or sponsorship was received for this work, and all authors have disclosed any potential financial or personal relationships that could be perceived as influencing the research presented.

Statement of ethical approval

This case report was conducted in accordance with ethical standards and was approved by the institutional review board of JJM Medical College, Davanagere, Karnataka.

Statement of informed consent

Informed consent was obtained from the patient for the publication of this case report, including any accompanying images or data. All identifying information has been anonymized to protect patient confidentiality.

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