Intraoperative Management of a LeFort II Fracture in a Second Trimester Pregnancy: A Case Report

Lauren Hammell, D.O., David Simons, D.O.
UPMC Lititz Department of Anesthesiology

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LIFE CHANGING MEDICINE

INTRODUCTION

- LeFort Fractures
  - Type I – horizontal maxillary fracture, separating the teeth from the upper face
  - Type II – pyramidal fracture, with the teeth at the pyramid base, and nasofrontal suture at its apex
  - Type III – transverse fracture line passes through nasofrontal suture, maxillo-frontal suture, orbital wall, and zygomatic arch
- **Anesthetic goals:**
  - Tight intraoperative management of vital signs; optimize uteroplacental perfusion and avoid fetal asphyxia.
  - Avoid or minimize aortocaval compression.
  - Avoid teratogenic medications
  - Anticipate probable oculo-cardic reflex

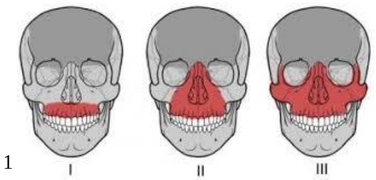

Figure 1

CASE DESCRIPTION

- 29 yo F, G3P2 at 19 weeks gestation, presented for elective repair of a LeFort II fracture suffered after being struck in the face by a fist
- PMH: none, allergies: pineapple, PSHx: none
- Non-contrast CT scan of the head demonstrated no intracranial hemorrhage or mass effect
- Non-contrast CT scan of the facial bones revealed complex fractures of the left orbit and maxilla, displacement and herniation of fat, as well as fractures involving the anterior, medial, and lateral walls of the left maxillary sinus.

CASE DESCRIPTION

Pre- op

- Access: 20 gauge peripheral IV
- Pre-op evaluation revealed no underlying heart, lung, GI, renal, or endocrine issues. Patient deemed an ASA 2
- Fetal heart tones assessed and confirmed by OBGYN physician on call

Intra-op

- After adequate pre-oxygenation, patient was induced intravenously with fentanyl, lidocaine, propofol, and rocuronium.
- 1.5 g Unasyn given in the perioperative period around incision time
- Left uterine displacement was performed
- A 7.0 ETT was placed under direct laryngoscopy
- After the closed reduction was completed, a 6.5 nasal RAE tube was exchanged via the right nare under direct laryngoscopy using Magill forceps.
- Hypotension was treated with 100 mcg phenylephrine boluses IV or 5-10mg ephedrine boluses IV
- 4 mg IV Zofran given for PONV prophylaxis
- Neuromuscular blockade reversed with neostigmine and glycopyrrolate
- EBL: minimal

Post-op

- Vital signs stable
- Pain well controlled
- Fetal heart tones reassessed and confirmed by OBGYN physician on call.
- Patient discharged home that evening

DISCUSSION

- LeFort fractures in the pregnant patient undergoing anesthesia presents a unique challenge. Non-obstetric procedures should be performed in the second trimester if possible. Elective surgery should be delayed until after delivery.
- ACOG does not recommend continuous fetal monitoring for pregnancy under 25 weeks gestation because the fetus is not considered viable.
- Toradol and other NSAIDS were avoided for post-operative pain control in this case due to their teratogenic nature in pregnancy.
- Reversal of neuromuscular blockade was achieved with glycopyrrolate and neostigmine.
  - Neostigmine crosses the placenta and may result in a fetal bradycardia.
  - Glycopyrrolate cannot cross the placenta, but atropine can cross the placenta and would have counteracted the fetal bradycardia.
- The oculo-cardic reflex or Aschner reflex is a decrease in heart rate associated with traction on extraocular muscles or compression of the eyeball

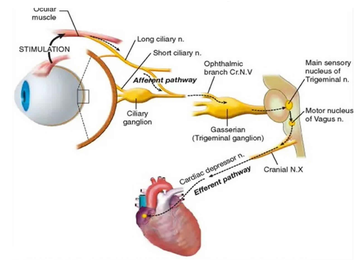

Figure 2

REFERENCES

Figure 1. Initial Evaluation and Management of Maxillofacial Injuries. [Online Image]. (Jan 2016). Retrieved March 27, 2020 online

Figure 2. Oculocardic reflex. [Online Image]. (2019). Retrieved March 28, 2020 online Martina Nejdlova, MD, Trevor Johnson, FRCA, *Anaesthesia for non-obstetric procedures during pregnancy,* Continuing Education in Anaesthesia Critical Care & Pain, Volume 12, Issue 4, August 2012, Pages 203–206.