A case of post-operative delirium and short term memory loss in a morbidly obese parturient

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INTRODUCTION

This is a case of a neuraxial anesthetic converted to an emergent general anesthetic in a morbidly obese parturient for cesarean section complicated postoperatively by altered mental status (AMS) and short term memory loss.

CASE DESCRIPTION

A 25 year old morbidly obese parturient (BMI 60 kg/m2) G2P1 at 39 weeks presented for cesarean section for failure to progress in labor. An epidural was in place, however it was found to be inadequate near the time for cesarean section. The epidural dosing was discontinued one hour before arrival to the OR.

A spinal was placed with some difficulty in the sitting position. The patient was positioned supine with left uterine displacement. She was pulled cephalad on the OR table, and her pannus was retracted and secured towards the head of the bed for better surgical access. At this point, the patient complained of difficulty breathing, became hypotensive, but she was able to squeeze with both hands. Hypotension was treated with phenylephrine, however the patient became unresponsive and hypoxic. The patient was intubated emergently and hypotension continued to be managed with vasopressors. Surgery commenced with general anesthesia uneventfully, and a viable fetus was delivered.

Patient had AMS upon extubation without focal neurological signs, and CT scan did not show any acute intracranial process. On the first post operative day (POD) patient became alert and oriented, but had memory loss for the events of labor and cesarean section, although she was able to recall prior events. EEG studies and MRI did not reveal any abnormality. This memory loss persisted at the time of her discharge from the hospital on POD 5.

DISCUSSION

<table>
<thead>
<tr>
<th>“I’m having difficulty breathing”</th>
<th>Postoperative AMS</th>
<th>Short-term memory loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>High spinal</td>
<td>Intracranial Process/Stroke</td>
<td></td>
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<tr>
<td>Supine hypotension</td>
<td>Local toxicity</td>
<td></td>
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<tr>
<td>Obesity hypoventilation</td>
<td>Hypercapnia</td>
<td></td>
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<td>Atelectasis</td>
<td>Hypoxia</td>
<td></td>
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<td>Narcotic overdose</td>
<td>Electrolyte abnormality</td>
<td></td>
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<tr>
<td>Pulmonary embolism</td>
<td>PE/Amniotic fluid embolus</td>
<td></td>
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<tr>
<td>Pain</td>
<td>Awareness/recall</td>
<td></td>
</tr>
</tbody>
</table>

Anesthetic implications of the morbidly obese parturient 3,4
• Respiratory
  ▶ Adipose deposition in upper airway
  ▶ O2 consumption, ↑ Minute ventilation
  ↓FRC (positioning and general anesthesia)
• Cardiovascular
  ▶ Blood volume, ↑ cardiac output
  BMI>30 kg/m2 → 3 times higher risk of HTN in pregnancy
• Neurologic
  ▶ Local anesthetic requirement ↑, ↓ MAC
  ▶ Epidural & subarachnoid space
  ▶ Failure rate of neuraxial technique
  4% incidence unintended dural puncture but ↓ incidence PDPH

CONCLUSION

• Careful dosing of spinal anesthetic after failed labor epidural analgesia is imperative in a morbidly obese parturient.
• Positioning of a morbidly obese parturient on the OR table can have a significant effect on respiratory and cardiovascular physiology.
• The etiology of altered mental status and short term memory loss is multifactorial, and the physiological changes of pregnancy can have various effects on neurological function.
• Our patient returned for tubal ligation months later without long-term sequelae from the events of her delivery.

REFERENCES

4. Anesthesiology. 1993;79:1210-18