

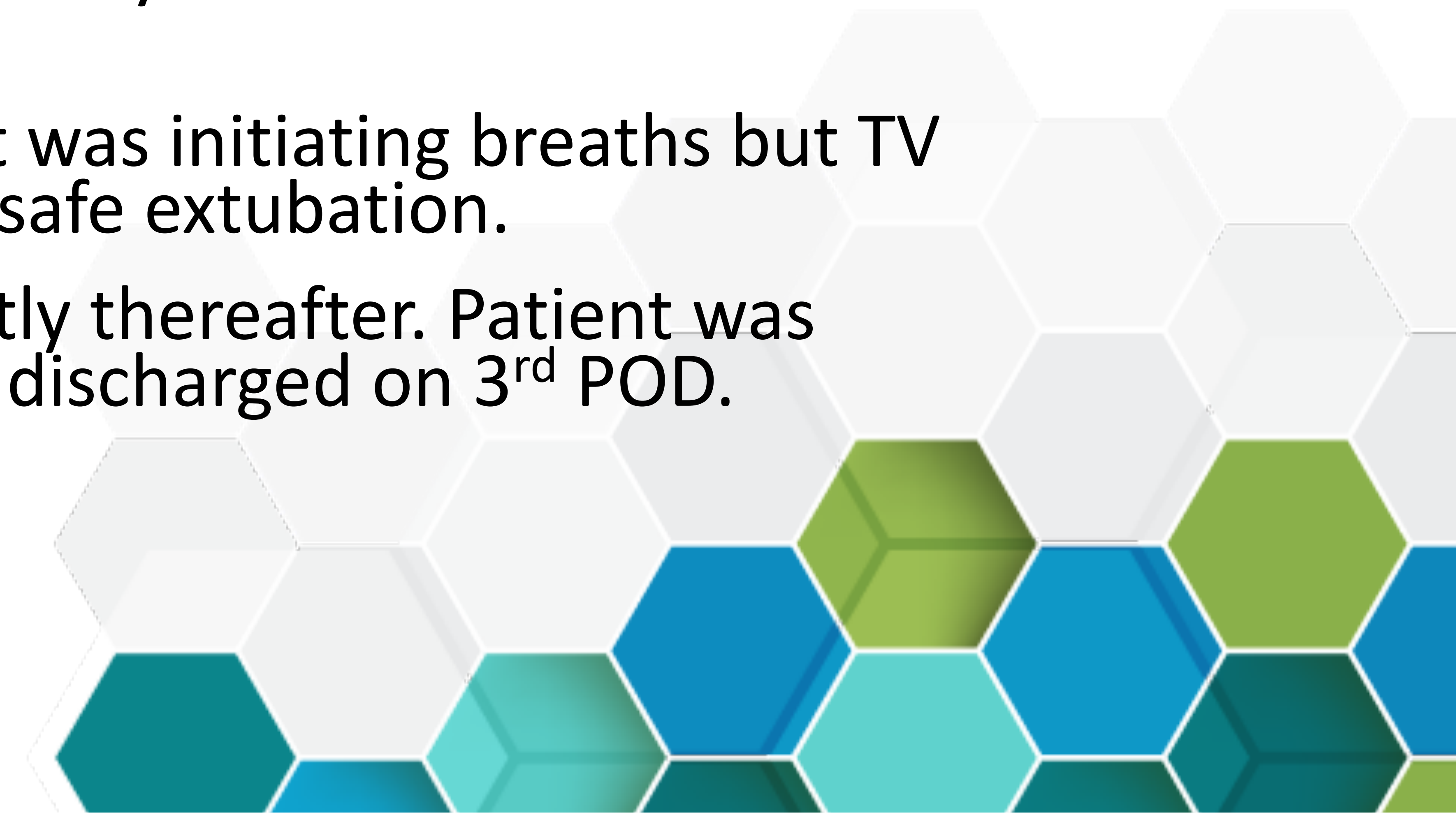
A decorative graphic on the left side of the slide consisting of a cluster of hexagons in various shades of blue, green, and yellow, arranged in a honeycomb-like pattern that tapers to the right.

High Neuraxial Blockade in Unrecognized Intrathecal/Subdural Catheter during Emergency Caesarean Section

- Total Spinal is a known complication of neuraxial blocks. A high neuraxial block is a sensorimotor block that has climbed to a spinal segment level higher than intended.
- Neuraxial block at T3 and higher has been associated with significant cardiovascular and respiratory compromise.

CASE Review

- 34 years female G3P1 at 39+ weeks with gestational diabetes and morbid obesity, underwent CSE placement uneventfully. Catheter aspiration followed by test dose were negative. Infusion was started with 0.1% Bupivacaine with fentanyl 2mcgs/ml.
- An hour later, called to evaluate for hypotension and Fetal HR deceleration. Patient received boluses of phenylephrine and Ephedrine, BP and Fetal HR recovered and stabilized transiently. Patient became hypotensive again with non-reassuring FHR.
- Decision was made to go for stat cesarean section. In the OR, after negative aspiration, 10ml of 2% lidocaine with epi was administered. In a few minutes, patient complained of being "numb all over", became unresponsive.
- Patient became hypotensive and developed respiratory arrest, but maintained HR. Patient Intubated with 7 ETT, mechanical ventilation and phenylephrine infusion initiated. Baby was delivered with APGARs 2 and 7, transferred to NICU.
- After procedure, withdrawal with 3cc syringe yielded CSF return. Patient was initiating breaths but TV was not appropriate. Patient transferred to SICU to allow more time for safe extubation.
- Patient was extubated and phenylephrine infusion was weaned off shortly thereafter. Patient was transfused 1unit of PRBC for excessive bleeding. Patient and baby were discharged on 3rd POD.



Discussion

- The following are all the possible etiologies for unanticipated high neuraxial block:
 - Estimation of local anesthetic dose, volume and baricity, required for appropriate level of anesthesia.
 - Positioning of patient during and after placement of the block.
 - Spinal after epidural: continuous epidural infusion and previous top offs can compress subarachnoid space and potentially increase chances of high block.
 - Accidental/Unrecognized intrathecal injection.
 - Accidental Subdural block- delayed onset, profound sensory and motor block, false negative aspiration and test doses, patchy block and accidental total spinal.
 - Accidental Intradural injection into substance of dura can cause possible localized swelling. Some local anesthetics can escape into epidural space and eventually cause acceptable epidural block, with repeated top offs an extensive block develops.
- **Prevention and management**
 - Vigilance, meticulous technique, awareness of the possible complications, careful assessment of the progression of the block and appropriate monitoring are all the key factors in prevention and early detection of these potential complications. Emergency airway intervention, vasopressors, rapid bolusing of fluids, sedate and ventilate the patient till the level comes down, immediate CPR and delivery of the baby if cardiac arrest occurs, are crucial interventions for successful outcomes.

