

# Title: Apparent Local Anesthetic Systemic Toxicity After Activation of a Labor Epidural Catheter for Cesarean Delivery Treated Successfully with Lipid Emulsion

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## Introduction

- Local anesthetic systemic toxicity can occur with epidural administration of local anesthetic medication
- We present a patient who had activation of an epidural catheter after **failed spinal anesthesia and subsequently developed apparent local anesthetic systemic toxicity (LAST).**

## Methods

- Our hospital's institutional review board exempts single-patient case reports from review.
- The patient provided written authorization for publication of her case.

# Results

- A **25-year-old G2P1001** woman with a history of a **prior CD** presented at **38 weeks** in active labor but with decreased fetal movement.
- The patient **was 150 cm, with a body mass index of 41 kg/m<sup>2</sup> and a calculated ideal body weight of 40 kg**. A combined spinal epidural (**CSE**) was placed at the **L4/L5** interspace without difficulty and 9.0 mg of 0.75% hyperbaric bupivacaine with 15 mcg fentanyl and 0.2 mg preservative free morphine was administered into the intrathecal space.
- The patient was positioned supine with left uterine displacement and the **block level was assessed to be at the L2 dermatome and not adequate for CD**. Subsequently, we administered a **total of 15 ml of 2% lidocaine** in 5 ml divided doses **over eight minutes and a T4 dermatome level was achieved**. The delivery proceeded uneventfully.
- However, after closure of the fascia, patient began to **exhibit altered mental status with dysconjugate gaze, decreased responsiveness, and slurred speech**. The electrocardiogram displayed normal sinus rhythm without acute changes.
- Nevertheless, we made a presumptive diagnosis of **LAST** and administered **60 ml (1.5 ml/kg) of 20% lipid emulsion**. Over the next **five minutes**, the patient's **altered mental status resolved** to within normal limits, and she had an uneventful recovery.

## Discussion

- A **previous case report** described an obstetric patient who developed signs and symptoms consistent with LAST following placement of a **CSE** for labor analgesia and the presenting signs were **tinnitus, metallic taste, and narrow complex sinus tachycardia**.<sup>1</sup>
- In our case, the patient developed **LAST** after epidural administration of **lidocaine** and the presenting sign was **altered mental status**.
- The **maximum** recommended dose of lidocaine without epinephrine is **4.5 mg/kg based on ideal body weight**<sup>2</sup> and our patient should not have received more than 180 mg.
- We have modified our practice to be more deliberate in **dosing local anesthetic based on ideal body weight** when activating epidural catheters for CD. It is important to recall that signs and symptoms of LAST may vary in presentation between cardiac and neurologic in nature and are frequently significantly delayed following local anesthetic injection. **It is important to consider LAST in all circumstances where large doses of local anesthetic have been administered.**



## References

1. Dun-Chi Lin J et al. Two for One: A Case Report of Intravenous Lipid Emulsion to Treat Local Anesthetic Systemic Toxicity in Term Pregnancy. A A Case Rep 2017;8:235-7
2. Rosenberg PH et al. Maximum recommended doses of local anesthetics: a multifactorial concept. Reg Anesth Pain Med 2004;29:564–75