

Amyotrophic Lateral Sclerosis (ALS) and Anesthesia in an Obstetric Patient - Case Report

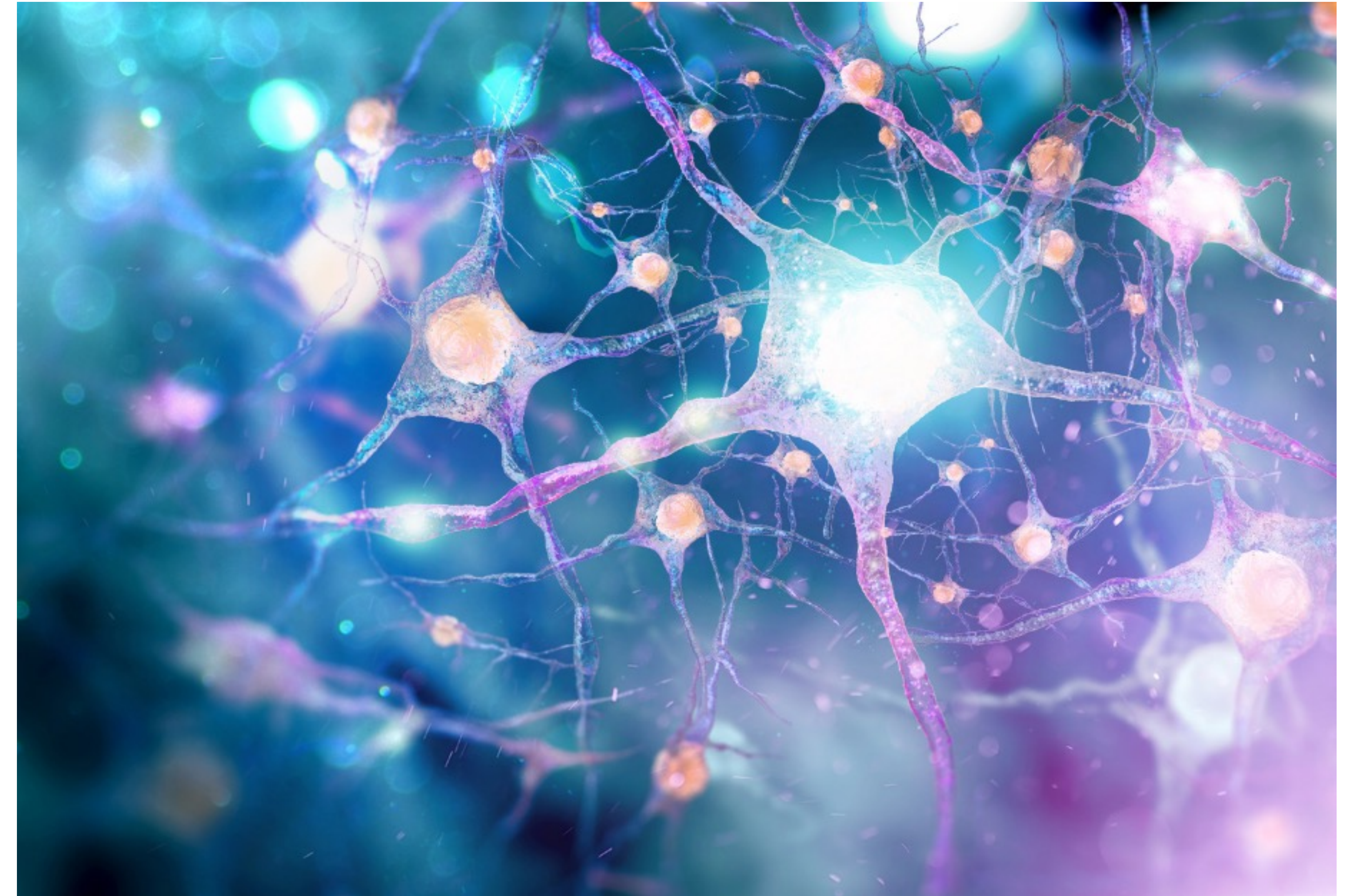
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Background: Amyotrophic lateral sclerosis (ALS) is a degenerative upper and lower motor neuron disease that is rare in the obstetric population.

We present a case of 27-year-old patient, G1 34 weeks and 3 days, who presented in her pregnancy with a background of recently diagnosed ALS.

Her ALS first manifested as bilateral shoulder weakness 10 months prior, and she rapidly progressed to PEG and tracheostomy dependence requiring ventilatory support. Earlier in her pregnancy she had a pulmonary embolism (PE) and was started on therapeutic low molecular weight heparin (LMWH). Now she was admitted due to acute on chronic respiratory failure with multifocal pneumonia and hemoptysis. On admission, patient had escalating ventilator requirements with episodes of hypoxia with associated late decelerations on fetal heart tracings (FHT). CT PE was negative and showed diffuse atelectasis associated with mucus plugging and lobar consolidation. Emergent bronchoscopy revealed thrombus in the right bronchus intermedius that was extracted, and hemostasis achieved.

Overnight, additional late decelerations with decreasing heart rate variability, not associated with maternal hypoxia, were managed with maternal repositioning and fluid bolus. In the morning, decision was made to proceed urgently with cesarean delivery given persistent non-reassuring FHT.



Operative Course

On pre-op evaluation, she was cachectic and anxious, HR 105 beats per minute (BPM) and regular, blood pressure (BP) 140/82 mmHg. She had a cuffed tracheostomy and was saturating 100% on 40% FiO2. She was anemic with a hemoglobin of 7.5 g/dL and was receiving transfusion of one unit of packed red blood cells (pRBC).

Once draped and the abdomen prepped, she was induced with sevoflurane and nitrous oxide. An additional PIV and arterial line were placed. Following uterotomy BP, dropped from 117/75 to a nadir of 87/49 over 10 minutes with HR increasing to 133 bpm. Uterine tone was poor despite oxytocin bolus and infusion. One dose of intramuscular Methergine was given and an additional unit of pRBC transfused. The baby was delivered with APGARs of 2, 2, & 5 at 1, 5 & 10 minutes respectively.

Patient returned to ICU post op for 2 days for further management of her respiratory failure before transfer to the floor on home ventilator settings. She was discharged home five days later.

Discussion

The main problem during pregnancy is respiratory compromise. The mode of delivery and timing of delivery would be affected by the severity of the disease and associated comorbidities. Choice of anesthesia for these patients is complicated. Neuraxial anesthesia offers the advantage of sustained pain relief. However, the effects of neuraxial anesthesia on intercostal muscles may impede expiratory flow that may exacerbate respiratory compromise. Given she was on therapeutic anticoagulation, neuraxial anesthesia was not an option for our patient.

References:

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