

Successful use of epidural analgesia in a parturient with a history of transverse myelitis associated with multiple sclerosis

Dr Neil Mackie MBChB FRCA, Dr Anton Chau MD MMSc FRCPC

Case History

30 year old G1P0, telehealth review at 34 weeks' gestation

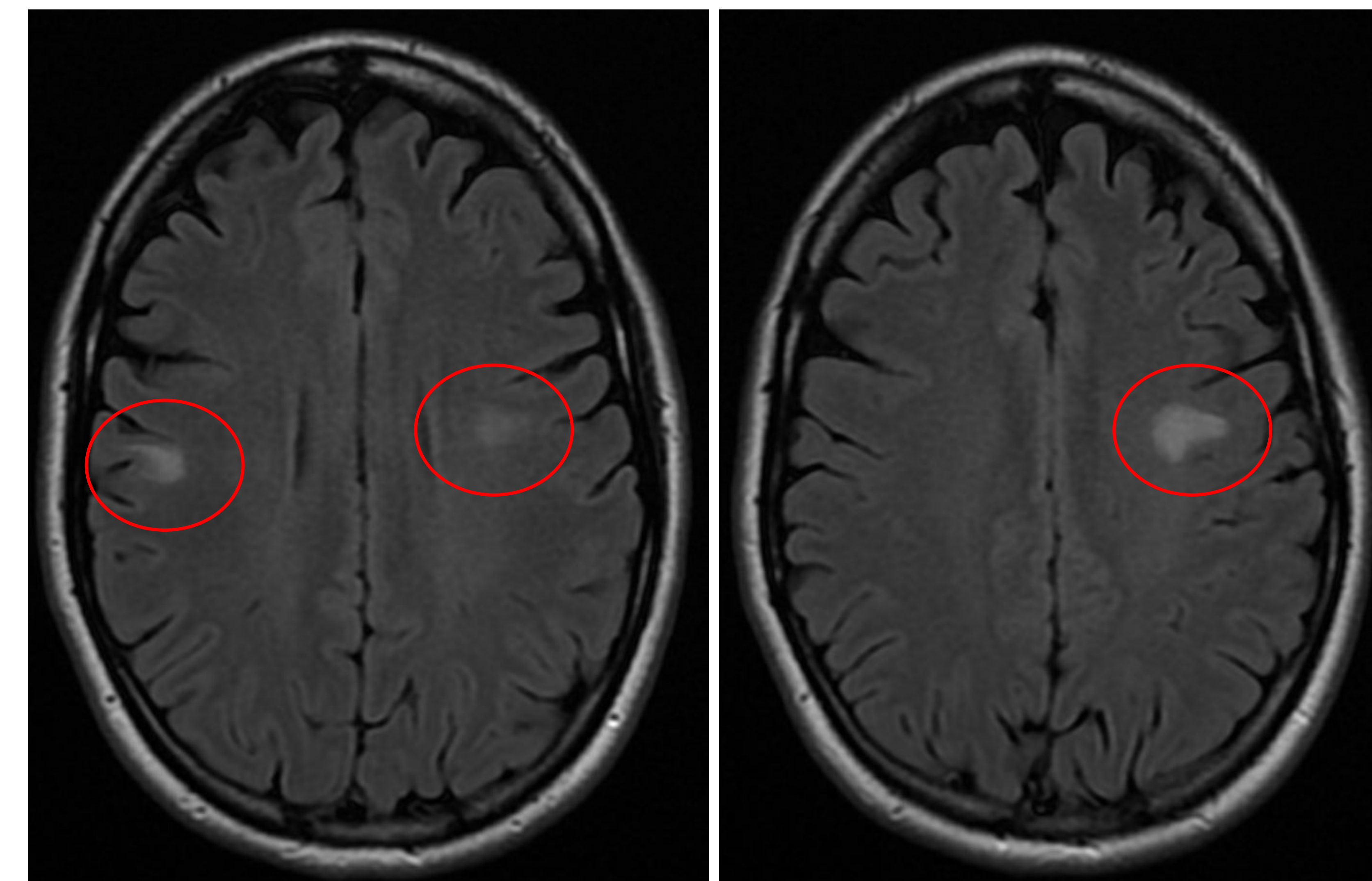
Background of multiple sclerosis (MS) with brain and spinal lesions:

- 2016 Facial droop and R arm weakness with bifrontal lesions on MRI head
- 2018 Follow up MRI head and whole spine demonstrates T7/8 spinal lesion
- 2020 Acute lower and upper limb weakness requiring IV steroids and plasma exchange

Current health:

- Disease controlled with 6-monthly ocrelizumab, stopped in advance of pregnancy due to risks of fetal harm and maternal infection
- Plan from neurology to restart 2 weeks postpartum
- Symptoms: occasional paresthesia to thigh, legs or feet

Other comorbidities: Type 1 diabetes mellitus controlled using insulin pump



MRI head demonstrating bilateral frontal lobe lesions (circled)
MRI spine performed out of region, images unavailable

Decision for labor epidural

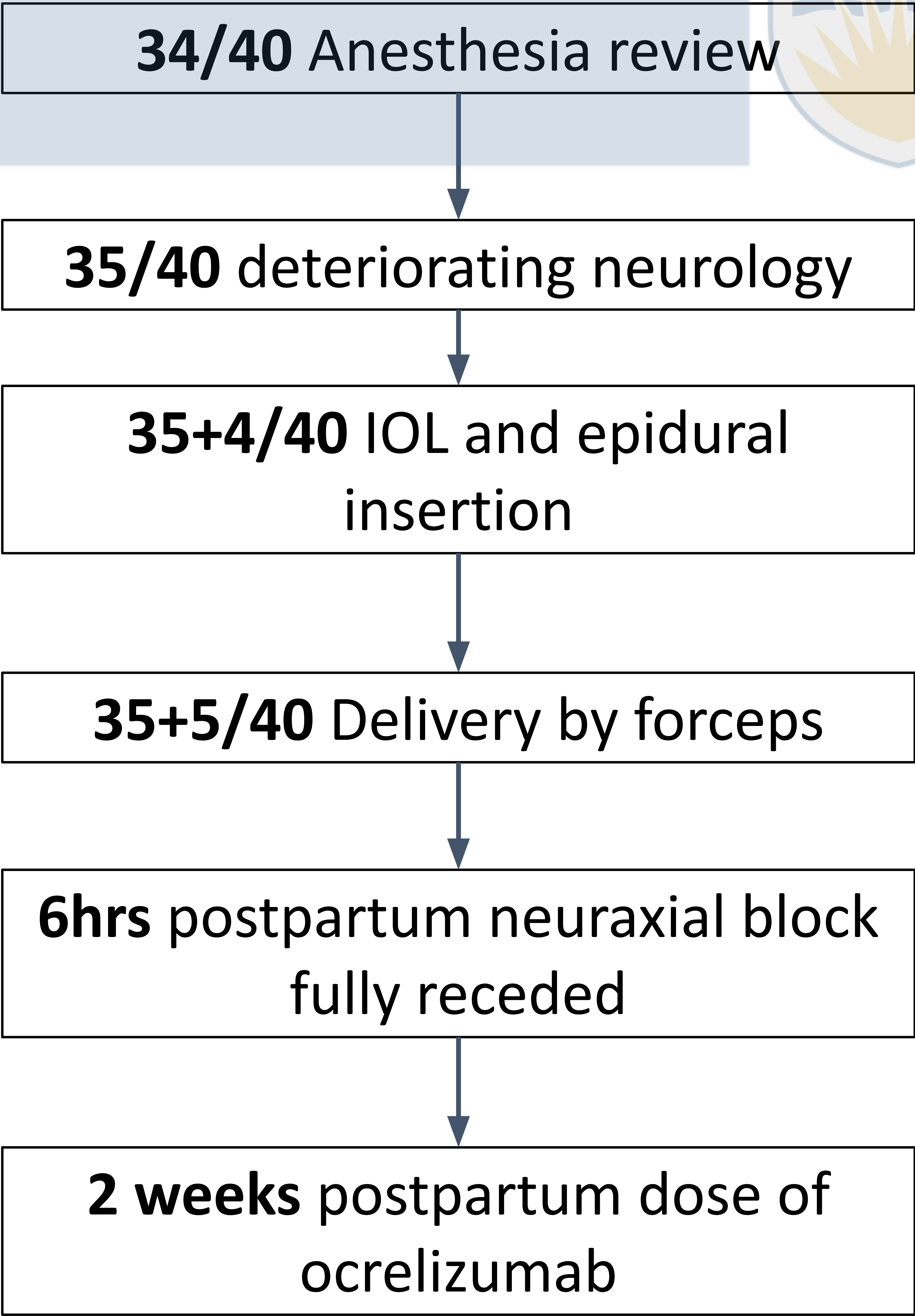
The patient was highly motivated to have epidural anesthesia during labor
The patient's MS was exacerbated by pain and emotional stress
An informed consent discussion took place, including alternative analgesic options.

Labor and Delivery

35/40 Worsening uterine irritability and lower limb neuropathic pain
35+4/40 Admitted for induction of labor to minimize the time delay to receiving postpartum ocrelizumab
Epidural requested and inserted following an unremarkable neurological examination
Fetus was delivered by forceps with 1-min and 5-min Apgar scores of 2 and 6

Postpartum

Epidural block completely receded by 6 hours postpartum
No neurology at anesthesia review d1 postpartum
Received ocrelizumab at 2 weeks postpartum
Asymptomatic at neurology clinic 3 months postpartum



Discussion

Neuraxial anesthesia does not contribute to risk of MS relapse¹

→ But evidence supporting this comes from patients without transverse myelitis (TM).

Demyelinated nerves may be more at risk of neurotoxicity from local anesthetics²

→ But epidural anesthesia has been used in other case reports of parturients with a history of TM

Transverse myelitis has been described after spinal, epidural and general anesthetics³.

→ But it is unclear if neuraxial anesthesia predisposes to disease recurrence

In **this case** the risk of MS recurrence from incomplete analgesia was greater than any demonstrable risk from neuraxial anesthesia
Stable interval health, and the **absence of neurology** at the time of epidural insertion supported the use of neuraxial anesthesia for labor analgesia.

Epidural medications administered

Initiation:
15mL 0.125% bupivacaine
75mcg fentanyl

Maintenance:
PIEB 0.08% bupivacaine
2mcg/mL fentanyl
Total dose 240mL over 20hours

Clinician boluses
6mL 0.25% bupivacaine
50mcg fentanyl
10mL 2% lidocaine

References: 1) Lavie C et al. Neuraxial Anesthesia is not associated with an increased risk of post-partum relapses in MS, *Multiple Sclerosis* Apr 25(4) 591-600
2) Lirk P et al, Regional Anesthesia in Patients with Preexisting Neurology, *Int Anes Clin* Fall 2011 vol 49(4) 144-165
3) S Thomas et al, Obstetric Anesthesia and Transverse Myelitis, *IJOA* Oct 2010 19(4) 467-8