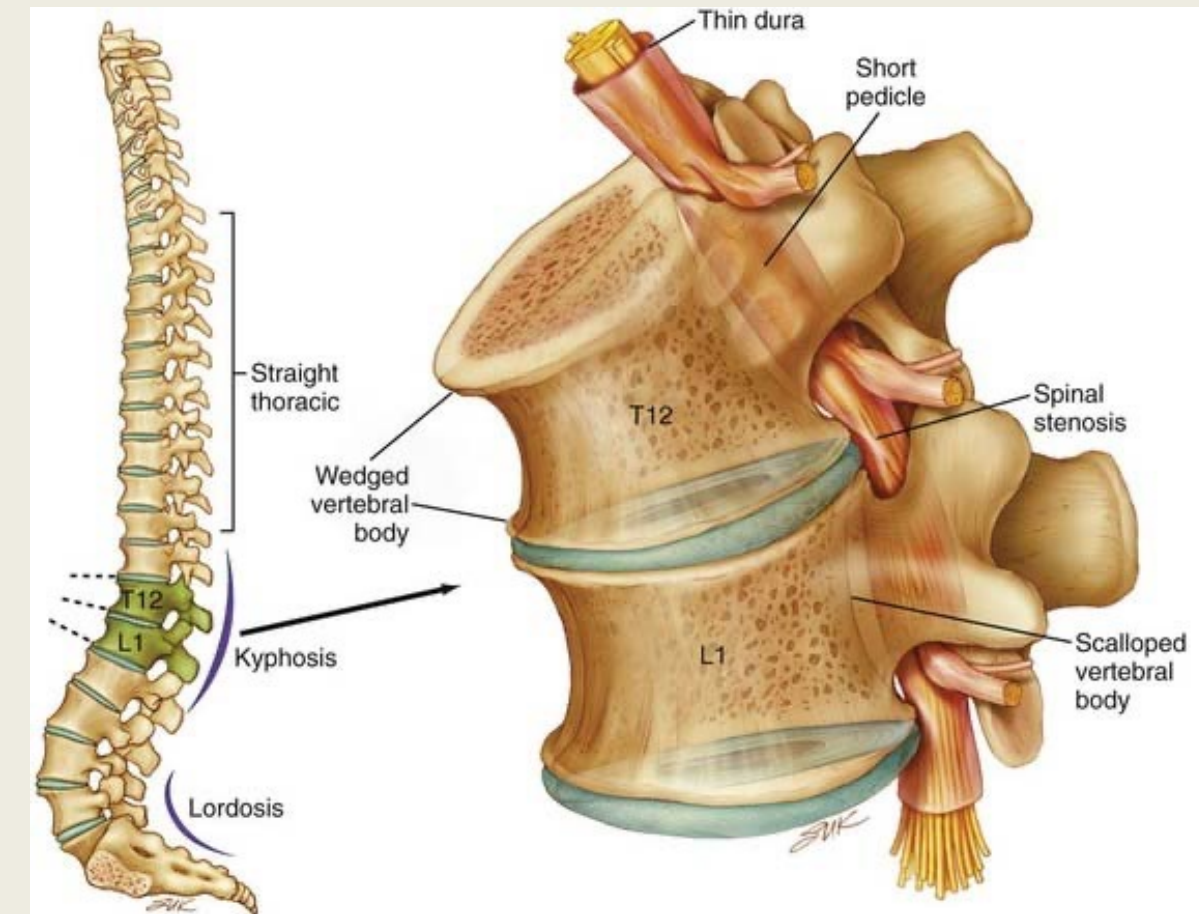


DANIELLA GONI MD, CHRISTOPHER LEE MD, TINA YU MD, CATHERINE CHA MD

DEPARTMENT OF ANESTHESIOLOGY AND PERIOPERATIVE MEDICINE, UCLA

BACKGROUND:

- Patients with achondroplasia often require elective cesarean delivery due to cephalopelvic disproportion
- Anesthetic choice considerations:
 - General anesthesia:
 - Potential difficult airway/mask – small mouth opening, macroglossia, limited neck extension, atlanto-occipital instability or fusion, increased incidence of OSA
 - Cardiopulmonary abnormalities – restrictive lung disease, pulmonary HTN, V/Q mismatch
 - Neuraxial anesthesia:
 - Spinal stenosis, kyphoscoliosis, narrow epidural and intrathecal spaces → difficult placement, unpredictable medication spread
 - 20% of patients require spine surgery
 - Postoperative changes: damage to the ligamentum flavum, scarring or obliteration of epidural space → false loss of resistance, increased risk of dural puncture, patchy sensory blockade



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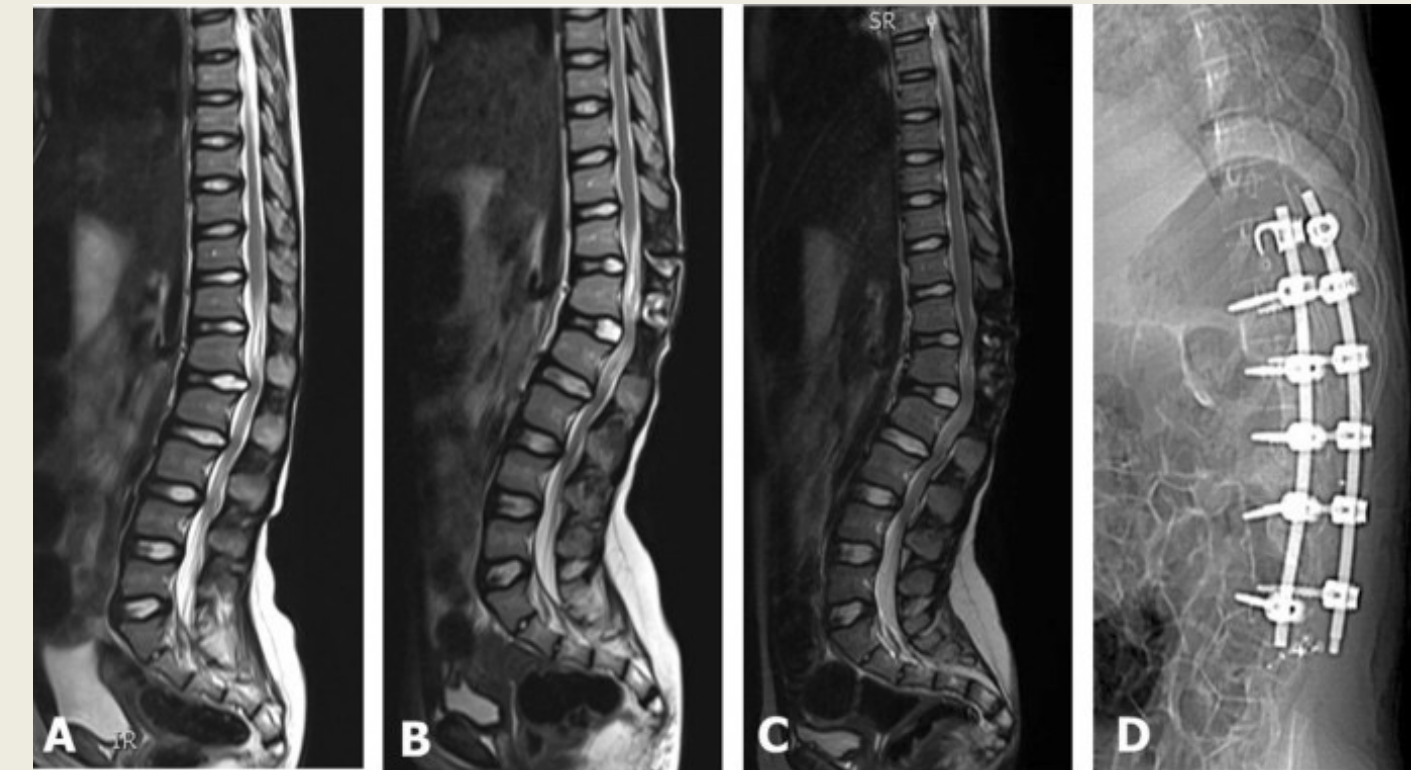
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PATIENT:

- 35-year old G2P1001 with achondroplasia presented for repeat elective cesarean section
- PMH notable for severe childhood OSA status post corrective surgery, severe kyphoscoliosis status post multiple surgeries to the thoracic and lumbar spine
 - Harrington rods placed spanning T11-L3, patent L4-5 interspace
- First delivery via elective cesarean section complicated by CSE with failed spinal, fetal bradycardia → emergent conversion to GA

CASE:

- CSE placed after multiple attempts at L3-L4 level
 - Administered 9 mg 0.75% bupivacaine in 8.25% dextrose, 15 mcg fentanyl, 150 mcg morphine → sensory level to T12 on left, T10 on right
- Fetus developed bradycardia despite stable maternal hemodynamics → conversion to GA
- Uncomplicated delivery, excellent postpartum analgesia, discharged POD2



Imaging:

Extensive postoperative changes identified throughout, noting lateral fusion plate and screws at L1-L3. There is interbody fusion at L1 through L3. There is an exaggerated thoracic kyphosis.

Note: Images not available for this patient. Sample representative imaging included.

DANIELLA GONI MD, CHRISTOPHER LEE MD, TINA YU MD, CATHERINE CHA MD
DEPARTMENT OF ANESTHESIOLOGY AND PERIOPERATIVE MEDICINE, UCLA

DISCUSSION:

- With appropriate patient selection, general and neuraxial anesthesia can be employed for cesarean delivery in parturients with achondroplasia
 - In cases where optimal anesthetic is not clear → counseling patient on possible scenarios is critical
- This case illustrates the anesthetic considerations for cesarean section in a parturient with achondroplasia and the added challenge of prior spinal instrumentation
 - Instrumentation and associated anatomic changes may contribute to more limited local anesthetic spread and patchy sensory blockade → CSE may allow for additional titration

GENERAL ANESTHESIA

Expect difficult airway.

Consider video laryngoscope or fiberoptic.

Review cardiopulmonary comorbidities.

NEURAXIAL ANESTHESIA

Expect challenging placement.

Plan to dose reduce local anesthetic dose.

Consider titratable technique.

