Postpartum Neuropathy
Objectives

- Review the Anatomy
- Discuss the Risk Factors
- Review the Clinical Findings

“When you get back, tell your hotshot scientists that we’ve been reproducing with frozen sperm and eggs for years!”
Postpartum Neuropathy

- Incidence
- Risk factors
- Most commonly affected nerves

Anatomy

- Intramedullary lesion versus Peripheral nerve
- Cauda equina
- Conus medullaris
Lumbar Radiculopathy & Plexopathy

- Radiculopathy
- Plexopathy
Peripheral Nerves of the leg

- Lateral Femoral Cutaneous Nerve
- Femoral Nerve
- Obturator Nerve
- Sciatic Nerve
Sciatic Nerve

- Common Peroneal Nerve
- Posterior Tibial Nerve
Pathophysiology

- Nerve compression

- Stretch injury
Case 1

- 33-year-old women, G3P3, presented to the neurology service for pain evaluation two days following a normal spontaneous vaginal delivery with epidural analgesia. The epidural had required multiple attempts. When getting up from the sitting position, she noted brief electric shock-like pain from her low thoracic spine radiating upwards to the occiput as well as down into her lower back.

- The patient was afebrile with stable vital signs. Her neurological examination was normal. Neck flexion elicited the shock-like pain. Kernig’s sign was negative.
Case 1
Case 2

- A 30-year-old woman G5P5 developed a postural headache one day after a NSVD with combined spinal-epidural analgesia, and was treated with an epidural blood patch on post-delivery day three.

- She presented on postpartum day 5 with a fever of 38.5°C, low back pain, pain with neck flexion, and a positive straight leg raising test, right greater than left. The rest of the examination was normal except for saddle anesthesia.
Case 2
Case 3

- A 28 year old woman G3P3 3 weeks postpartum, presents to the clinic for evaluation of pain which started following her delivery. She has a NSVD with uncomplicated epidural anesthesia. The pain shoots from the groin into her thigh and she notes right thigh numbness. She also has nonradicular low back pain. She had a

- On exam: She’s 62 inches tall, weight is 190 lbs. She has pain with back ROM. Her strength is normal. There is a decrease in pinprick over the lateral aspect of her right thigh.
Lateral Femoral Cutaneous Nerve

- Incidence 4/1000 parturients
- Findings
- Risk factors
Case 4

- The neurology service was asked to evaluate a 32-year-old woman G1P1 for right leg weakness two days postpartum. She had an uneventful vaginal delivery of a 3266-g baby with epidural analgesia. She noted right leg numbness and knee weakness. On the first postpartum day, her leg buckled and she fell when she stood to move to the bathroom. She had no back pain or leg pain.

- On exam: 4/5 weakness in right hip flexion and knee extension, diminished right patellar DTR, and sensory loss in her medial thigh and calf. Her back was not tender and back range of motion was normal. She had some tenderness over the right inguinal ligament.
Femoral Nerve

- Incidence 2.8/100,000
- 25% are bilateral
- Findings
- Risk factors
Case 5

A 32-year-old right-handed woman eight weeks postpartum was evaluated for left leg pain, numbness and weakness, which she felt was related to her epidural anesthesia. She had an uneventful initiation of epidural labor analgesia, but eventually had a cesarean delivery for non-reassuring fetal status during the second stage of labor. Postpartum, she began having left leg pain and paresthesias. She also noted weakness of her left leg below the knee aggravated by squatting or crossing her legs. She had mild back pain without radicular pain.

Her examination was notable for full back range of motion without pain. She had 4/5 left anterior tibialis, extensor hallucis and ankle evotor muscle strength. Her ankle invertors were 5/5. Her reflexes were normal. She had a positive Tinel’s sign over the peroneal nerve at the fibular head. She had mild difficulty with left heel standing.
Peroneal Neuropathy

- Foot drop
- Mechanism
- Treatment
Sciatic Nerve

- Incidence 5/6000

- Findings
Case 6

- 34-year-old woman comes for evaluation postpartum for left leg weakness. Several hours after labor onset, she had pain in the left groin and medial thigh. She received epidural anesthesia via the L3/L4 interspace. The pain resolved. She underwent an urgent C-section for failure to progress. The following day, she noted difficulty walking and requiring assistance. Bladder, bowel, and contralateral leg function were normal.

- Examination revealed profound weakness of left thigh adduction only. Knee and ankle reflexes were normal bilaterally with flexor plantar responses. The left adductor reflex was significantly reduced, whereas the right was easily elicited. A small area of decreased pinprick sensation was present over the medial left thigh. MRI of the lumbosacral spine was performed 5 days postpartum with no evidence of lumbar nerve root compression.
Obturator Nerve

- Uncommon

- Location of injury

- Findings

A neurologic consultation was requested 1 day postpartum for a 27 year old woman G1P1 for pain, numbness, tingling, and muscle weakness in both lower extremities with trouble standing. In addition, she noted difficulty emptying her bladder. She had an uncomplicated NVD at 41 weeks of gestation giving birth to a baby boy who was 9 lbs., 3 oz. She had gotten epidural anesthesia which was not noted to have been difficult.

On exam: Her height was 60 inches. Neurologic exam revealed: weakness in hip flexion 4+ on the right, 4- on the left; hip abduction 4+ right, 4- left; hip adduction 4 bilaterally, 4 for both left and right knee flexion/extension; distal strength was normal. Her patellar reflexes were absent and she had trace ankle jerks. Sensory exam showed decreased sensation to pin throughout the legs without a level. There was also diminished perineal sensation and diminished rectal tone. No back pain with ROM.
Lumbosacral Plexus

- Findings
- Location of injury
- Risk factors
Pudendal Nerve

- Findings
- Risk factors
Approach to Spine Imaging

- Unexplained bowel or bladder symptoms
- Motor findings in a cord or root pattern
- Sensory findings in a cord or root pattern
- Worsening neurological symptoms
- Concerning features*

*Concerning features include: unexplained fever, Lhermitte’s sign, history of HIV positive or immunosuppression, history of cancer, point tenderness over the spine, radicular pain or coagulopathy
Take Home Points

- Frequently caused by compressive injury
- Rarely related to neuroaxial anesthesia
- Diagnosis is usually made by a careful history and exam
- Prognosis is excellent
“I’m never having kids. I hear they take nine months to download.”