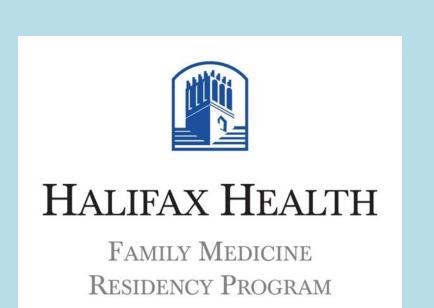


Newborn with Rhythmic Movements at Discharge

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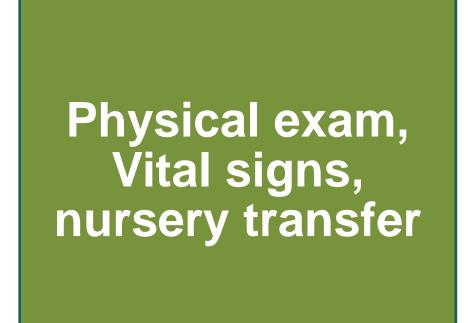
Presentation

- Previously healthy newborn re-evaluated at 28 hrs of life before discharge and noted to have jerking movements and eye deviation to the left
- Pregnancy history: pregnancy induced hypertension, premature rupture of membranes for 24 hrs, prenatal labs negative
- Precipitous, spontaneous vaginal delivery
- Apgar scores of 4 and 8 at 1 and 5 minutes, no additional resuscitation required

Physical Exam

- 38 weeks gestation, birth weight 3005g, AGA
- PE: alert and active infant, pupils reactive to light, no lesions of the oral cavity or pharynx, normal head size/configuration, anterior fontanelle flat/open/soft, open suture lines
- Rhythmic movements of left lower extremity that persisted in spite of holding, bilateral eye deviation to the left for 5-10 seconds, and perioral pallor
- Remainder of physical exam normal
- While in nursery for observation: 3 additional seizures with facial twitching, dropping of jaw, oxygen desaturation of 82%.

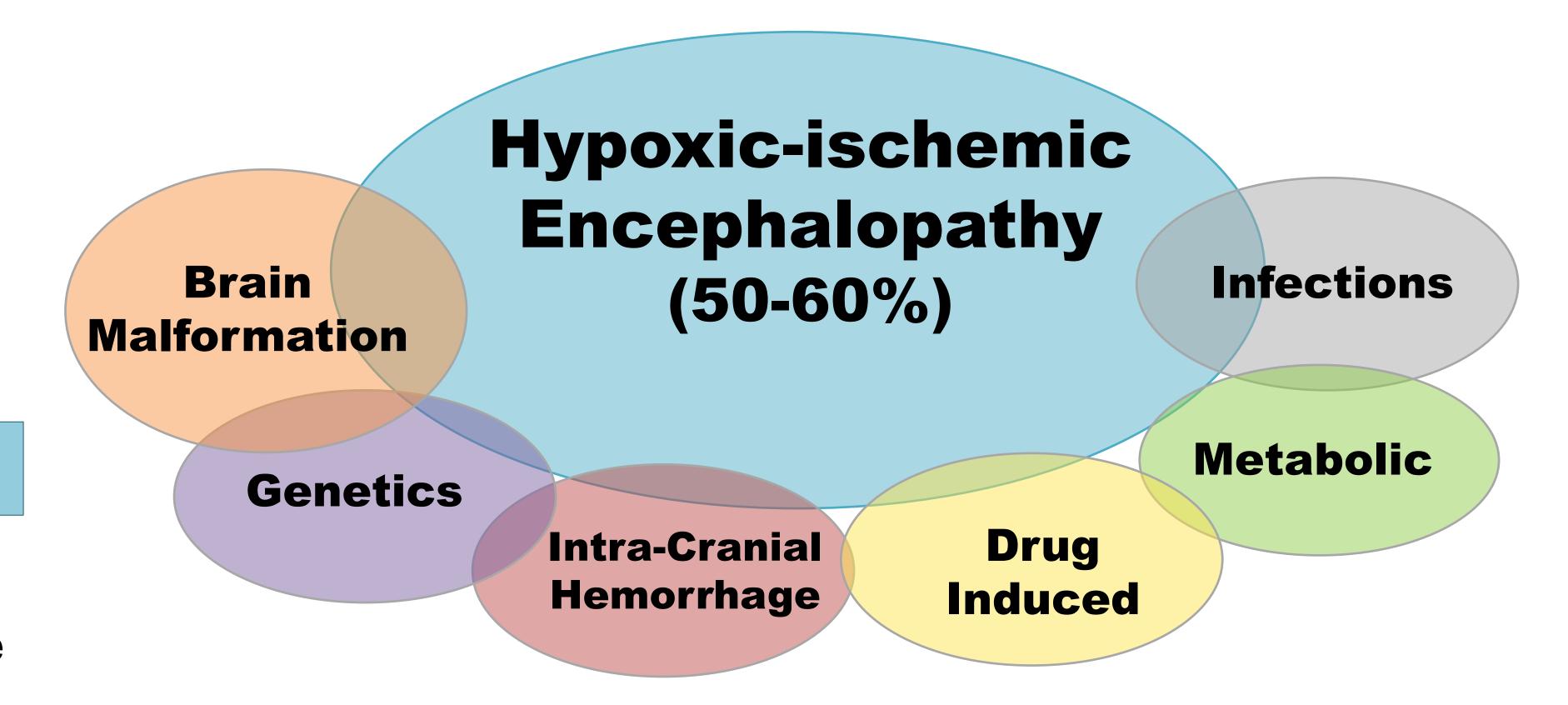
Clinical Course



Serial bedside glucose, CBC, CMP, magnesium and EEG
Transfer to NICU

Head ultrasound
Blood Cultures
Phenobarbital,
ampicillin, and
gentamicin
Transfer to
Tertiary Center

Causes of Neonatal Seizures



Work-up/Management

Clinical findings

- Eye fixation or deviation, lip smacking, posturing, rhythmic isolated limb movement
- Autonomic abnormalities: heart rate, blood pressure, oxygenation

Labs

- Serum glucose, calcium, pH, magnesium, sodium, ammonia
- Lumbar puncture for infection
- Serum amino acids, karyotype, and drug screening

Imaging

- EEG
- Cranial ultrasound
- Brain CT/MRI

Intervention

- Phenobarbital, Phenytoin, or Lorazepam
- Pyridoxine trial
- Antibiotics: Ampicillin, and Gentamicin
- Antivirals: Acyclovir

Results

- CBC with 73.7% neutrophils
- Serum glucose 49
- Rest of lab work unremarkable
- Head ultrasound: normal sized ventricles and no intracranial blood products
- Transferred to tertiary care center for further evaluation

Discussion

- Each newborn exam must be thorough and meticulous at every encounter
- Most common clinical finding of neonatal seizures is ocular movements: roving eyes, eye fixation, horizontal eye deviation, and unresponsiveness.
- Other findings are lip smacking, posturing, rhythmic isolated limb movements, alterations in autonomic functions
- Epidemiology: 0.5% term and 20% preterm newborns.
- Neonatal seizure mortality rate:15% in term and 60% in preterm newborns
- Long term consequences: epilepsy, cognitive disability, and motor deficits
- Factors for prognosis: Apgar scores, need for ventilation, EEG results, and imaging findings (ultrasound, MRI, CT)
- Timeliness of recognizing the seizure, proper work up, and consultations could improve the infant's quality of life and prevent long term complications

Resources

- 1. Mosley, Mehran. "Neonatal Seizures." Pediatrics in Review. 01 Mar. 2010. American Academy of Pediatrics.
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- 3. Olson, D. M. "Neonatal Seizures." NeoReviews, vol. 13, no. 4, Jan. 2012, doi:10.1542/neo.13-4-e213.
- 4. Gillam-Krakauer, M., and B. S. Carter. "Neonatal Hypoxia and Seizures." Pediatrics in Review, vol. 33, no. 9, 2012, pp. 387–397., doi:10.1542/pir.33-9-387.