

Neurological System Outline- Child

I. Reye's Syndrome

- Definition- Metabolic encephalopathy with fatty infiltration of the liver
 - Rare, serious condition causing swelling in liver and brain
 - Theories: Syndrome r/t viral illness, aspirin ingestion, metabolic errors of body?
- Patho-
 - Cause unknown
 - We do know: Liver sustains some type of insult, becomes large/swollen, loses ability to detoxify ammonia.
 - Ammonia accumulates, creates toxicity to body
- Clinical Manifestations
 - Recover from an initial viral illness, then become ill again usual case
 - S/S can progress quick
 - Lethargy, Vomiting, Confusion, Agitation
- Diagnosis
 - Serum ammonia elevation, bleeding times can be prolonged
 - CT Scan
 - Liver biopsy definitive
- Therapeutic Management
 - IVF, diuretics, bleeding precautions, treat/prevent cerebral edema, maintain normal ICP
 - Symptom support
- Prevention- avoid salicylate use in viral illness cases

II. Cerebral Palsy

- Definition- Disorder of posture and movement caused by an injury/insult to the developing brain before birth, during birth or after birth.
 - Chronic and permanent. Non-progressive
 - Other issues: disturbances with sensation, perception, communication, cognition, behavior
- Etiology
 - Brain injury, anoxia, asphyxiation, prematurity (#1 risk factor), congenital malformation, maternal/fetal infections, or unknown cause.
- Patho
 - Gross malformation of the brain, otherwise no classic "picture" of patho
- Clinical Manifestations
 - Delayed gross motor development & abnormal motor performance
 - Abnormal muscle tone
 - Abnormal posture
 - Reflex abnormalities

- o Other- issues affecting learning and behavior
- Classifications of CP
 - o Spastic
 - o Dyskinetic
 - o Ataxic
 - o Mixed
- Diagnosis
 - o Neuro exam, is child meeting milestones?, G&D assessment, H&P
 - o MRI
 - o Persisting primitive infant reflexes- moro, tonic neck
- Therapeutic Management
 - o Primary goal- early recognition of disorder, promotion of optimal development
 - o Optimal appearance, motor functions, socialization, and educational opportunities
 - o Correction of any defects
 - o Assistive devices for locomotion- braces, wheelchairs/scooters, surgery, hand devices
 - o Medications to decrease spasticity
 - Baclofen pump, diazepam, botulinum toxin A
- Nursing Management
 - o Maintain proper alignment of body, prevent skin breakdown/contractures
 - o Give ample rest periods, assist with ADL, transfer safety
 - o Nutritional maintenance
 - o Support for patient and family
 - o Multidisciplinary care- PT/OT/Speech/Case Management

III. Craniosynostosis

- Definition- premature closing of one or more cranial sutures before fusion should occur
 - o Rare occurrence, cause unknown
 - o Causes abnormal head shape often easily visible
- Clinical Manifestations
 - o Skull misshapen, deformity
 - o Signs of increased ICP
- Diagnosis
 - o Clinical appearance
 - o Xrays, MRI, CT
 - o R/O other genetic syndromes
- Therapeutic Management

- Surgery- to reduce pressure of growing brain in a fused location & to correct deformities
 - Craniotomy-to open the fused sutures up to allow skull to grow with growing brain
- Nursing Management
 - Support to family as appearance of child could be concerning
 - Post op surgery nursing management
 - Watch for signs of increased ICP
 - Infection/Bleeding
 - Referral to support groups/case management