Clinical Aspects of Acute Pain in Children with Cerebral Palsy

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Outline

• Importance of pain assessment in Cerebral Palsy (CP)
• Brief assessment of pain assessment tools
• Review of postop pain in the Literature
• Discuss specific postop pain issues in CP

Clinical Aspects of Acute Pain in Children with CP

• Assessing pain in children with CP can be very difficult
• Cognitive disabilities and communication disabilities compound difficulty
• Multiple medical co-morbidities make for numerous potential sources of pain
• Differential Diagnosis needs to be wide

Clinical Aspects of Acute Pain in Children with CP

• Several studies have demonstrated high prevalence rates in children with CP
  • Stallard: 67%
  • Haden and Von Bayer: 67%
  • Parkinson: 73%
• Some studies suggest that pain is inadequately evaluated and treated in patients with CP (Hirsh et al., 2011).

Clinical Aspects of Acute Pain in Children with CP

• Can Vital Signs help with pain assessment?
• N-PASS: Neonatal Pain, Agitation and Sedation Scale
  • Uses Vital signs as part of the scale

Clinical Aspects of Acute Pain in Children with CP

• What about acute pain?
• Very little work has been directed at assessing/treating acute, post-op pain.
• Pain Response includes:
  • Physiological symptoms (HR, BP)
  • Facial expression changes, crying
  • Behavioral or mood changes
Assessment of Post-Operative Pain in Children with Cerebral Palsy

- Typical physiological response may not be accurate in determining pain in children with neurological disabilities
- Although various inflammatory biomarkers may have higher levels during both acute and chronic pain, no one biomarker can currently assess pain with accuracy or certainty

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- Wong-Baker FACES Scale very commonly used for acute pain assessment:
  - Visual Analogue Scale
  - Thermometer Scale

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- Proxy reporting or Observational Pain Assessment
- Non-communicating Children’s Pain Checklist (revised) (NCCPC-r)
  - 31 Items
  - Behavior observed over last 2 hours
  - Designed for in-home assessment for short and long-term pain

Clinical Aspects of Acute Pain in Children with CP

- NCCPC-PV postop version
- Breau et al validated in a group of 24 nonverbal children with ID
- Variety of surgical procedures: g-tube, ear tube, TAL, endoscopies, biopsies, strabismus
- Instrument showed good interrater reliability, correlated well with VAS, and displayed good psychometric properties
  - “Pain does not vary with type of surgery”

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- Observational Pain Assessment
- Pediatric Pain Profile
  - 20 item checklist that assesses behavior that implies pain

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- Hunt et al reported on a pilot using PPP for assessing postop pain in children with neurological disabilities
- Five families of children 5-16 age with CP participated
- Overall, consensus on pain assessment was difficult, but got better with more use of the instrument
- Was considered time consuming by the RNs
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- Observational Pain Assessment
- Faces, Legs, Activity, Cry, Consolability (FLACC)

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- FLACC commonly used for non-verbal children, and is the mainstay of acute pain assessment in many children’s hospitals
- Nilsson et al assessed the FLACC in 80 children undergoing vascular procedures
- Relatively high correlations with analog scales


Even with these tools, how well do we assess and manage acute, postoperative pain in these children?

To date, very little has been addressed in our literature

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Assessment of Post-Operative Pain in Children with Cerebral Palsy

- Comparison of how well our nursing staff completed pain assessments in pts with CP
- Presented at AACPDM
- Pain scores of pts with CP undergoing orthopedic surgery were compared to a normal control group: a group of patients with Adolescent Idiopathic Scoliosis (Controls) undergoing Posterior Spinal Fusion (PSF)
- Two main end points:
  - How often Complete Pain Assessments Occurred
  - How often Pain was rated as zero
- Groups were compared statistically using Chi-squared analysis, with significance set at p<0.05

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