Objectives

- Contrast the need to balance desired analgosedative drug effects with undesired side effects and explain the benefit of optimal dose determination.

- Discuss the current evidence regarding the possible long-term effects of analgosedative drug use on human brain development and neuropsychological functions.

- Summarize the complexities of the case presentation involving polysubstance prenatal exposure and subsequent neonatal abstinence syndrome (NAS).

- Describe the results, conclusions and limitations of the Giordano study done at 3 years of age following increased opiate exposure in extremely preterm infants as a result of implementation of a neonatal pain and sedation protocol.

Content Outline

1. Long-Term Neurodevelopmental Impact of Analgesics/Sedative Use in Neonates
   1.1 Dose determination for common analgosedative drugs used in critically ill neonates, infants & children
   1.2 Impact of common analgosedative drug use on neuropsychological functions following neonatal critical illness
   1.3 Recommendations to support evidence-based clinical approaches

2. Withdrawal Process in a Neonate with Prenatal Exposure to Fentanyl Analog
   2.1 Overview of classic neonatal abstinence syndrome (NAS)
   2.2 Neonatal case presentation involving NAS with polysubstance prenatal exposure
   2.3 Recommendations supporting a collaborative course of investigation & treatment in NAS cases

3. Three Years Neurodevelopmental Outcome in Extremely Preterm Infants Following Increased Opiate Exposure
   3.1 Transition in perception of ability of preterm infant to feel pain
   3.2 Study investigating neurodevelopment outcomes at three years of age following increased opiate exposure per pain/sedation protocol use
      3.2.1 Setting of study with procedure, aim and patient population
      3.2.2 Measure and statistical analysis
      3.2.3 Study results, discussion and limitations
      3.2.4 Study conclusion

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Reading Material Resources

Module WB2121: Therapeutic or Toxic: Neonatal Effects of Analgesics & Sedatives is based on the resources listed below. A copy of each resource is included with the module.

