Children‘s pain & withdrawal: Which interventions are necessary?

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Physical Dependence – Withdrawal Syndrome

– Introduction
– Problems seen in Clinical Practice
– Information sought in the Literature
  – Withdrawal Symptoms
  – Assessment Instruments
  – Treatment Strategies
– Procedures from the Treatment Protocol
– Results
– Negative/Positive Aspects
Background

– 0.6% of all births Congenital Heart Disease of moderate to great complexity

– Increasing number of operations on neonates and young children for heart defects

– Longer periods of Analgesedation due to:
  – Postoperative Instability
  – Pulmonary Hypertension
  – Pain

Oechslin, 2006; Pohl-Schickinger et al., 2008
Which medications are most frequently used?

– Morphine
– Fentanyl
– Midazolam
– Chloralhydrate

Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften, 2009; Jenkins et al., 2006
Tolerance

– Developement of tolerance due to longer periods of treatment

– Decrease in Effectiveness

– Factors conducive to developing tolerance
  – Duration of pain therapy
  – Pre-term Infants
  – Male babies
  – Short-acting Opioids
Physical Dependence – Withdrawal Syndrome

– Drug tolerance

– Seen after stopping or reducing the dose of a medication that has been administered over a longer period of time

Tobias, 2000
Problems Seen in Clinical Practice

– Difficulties to Identify Withdrawal

– Similar to other problems that can appear following cardiac surgery

– Lack of a reliable assessment instrument
Information sought in the Literature

– Which are the most common withdrawal symptoms?

– Are there assessment instruments to identify withdrawal syndromes in neonates?

– What measures can protect from or treat withdrawal symptoms?
Withdrawal Symptoms

Frequency

- CNS-Overstimulation: 55%
- Gastrointestinal Symptoms: 34%
- Autonomic Dysfunction: 11%

Ista et al., 2009; Anandet al., 2009

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Assessment Instrument: SOS Scale

Sophia Observation Withdrawal Symptoms Scale

Ista et al., 2009
Treatment Strategies

– **Avoid symptoms of withdrawal**
  – Gradual dose reduction
  – Early conversion from continuous opioid infusions to intermittent intravenous opioids, or enteral administration

– **Treatment of a Withdrawal Syndrome**
  – Stress reduction
  – Care by primary nursing and involving parents
  – Use of Clonidine

Anand et al., 2009; Arenas-López et al., 2004
„Protocol to Prevent Withdrawal Symptoms“

– 20% reduction of medication dose daily

– Use of the „SOS- Sophia Observation Withdrawal Symptom Scale“
  – 4-6 hours following dose reduction
  – When Withdrawal Syndrome is suspected
  – To monitor successful dose reduction or cessation
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Results

- 51 Patients were observed
  - 1.56 years old
  - 7 days to wean
  - 12 patients developed a Withdrawal Syndrome

- Most frequent Withdrawal Symptoms
  - Sweating
  - Agitation
  - Anxiety
  - Insomnia
Negative/Positive Aspects

– Assessment remains challenging

– Complex Protocol

– Can not always be consistently followed, must be individually adapted

– Assessments are acknowledged and accepted

– Patients at risk are assessed and quickly treated
… Take-home Messages

– Vigilant Observations

– Evaluate within the treatment teams

– Standardized Treatment Protocol

– Knowledge generated for improved care of future patients
References


Many thanks for your attention