Case Study

• A 43-year-old female with chronic baclofen use for spasticity secondary to a spinal cord injury.
  – Gave birth to a healthy full-term infant male via spontaneous vaginal delivery.
  – Throughout pregnancy the mother had received oral baclofen 80 mg daily.

Background

• Baclofen
  – Gamma-aminobutyric acid (GABA) agonist used as a muscle relaxant in the treatment of spasticity.
  – Occasionally necessary to continue in pregnancy for neurological conditions.

• Neonatal Abstinence Syndrome (NAS)
  – Constellation of symptoms in newborns exposed to addictive substances in utero.
  – Symptoms include irritability, high-pitched crying, excessive sucking, and seizures.
  – One case of intrauterine baclofen exposure demonstrated symptoms of NAS (high-pitched crying, tremor, disordered sleep, mottling) beginning on the 3rd day of life.
  – Another case demonstrated benzodiazepine-refractory seizures beginning on the 7th day of life.

Hypothesis

• The administration of a baclofen taper shortly after birth will help prevent Neonatal Abstinence Syndrome from intrauterine baclofen exposure.

Methods

• A multidisciplinary team consisting of toxicologists and health care providers met to formulate a baclofen taper regimen based on review of the limited case reports of intrauterine baclofen exposure.
  – Initial dose of 0.1 mg/kg/day for four days followed by a decrease of 0.01 mg/kg/day until discontinuation of baclofen on the 13th day of life.

  – Daily assessment for Neonatal Abstinence Syndrome was performed using the modified Finnegan NAS scoring system.
    – Assesses for 21 symptoms frequently observed with Neonatal Abstinence Syndrome.
    – Assessment was performed every 4 hours.
    – Scoring system ranges from 0 to 42.

Results

• 82 modified Finnegan NAS scores obtained in the first 16 days of life.
• Scores ranged from 0 to 9 with a mean score of 2.0 ± 2.4.
• Max score of 9 was observed on the 12th and 13th day of life.
• At no point were there three consecutive NAS scores ≥8.
• Last dose of baclofen taper regimen received the morning of the 14th day of life.
• Infant was discharged from the hospital 3 days after the baclofen taper regimen had finished.

Discussion

• This case study demonstrates the absence of NAS in an infant who received a baclofen taper after intrauterine baclofen exposure from a mother taking oral baclofen 80 mg/day.
• Lack of three consecutive NAS scores ≥8 indicated no need for further pharmacological intervention.
• Limitations include the fact that the infant also received baclofen via breast milk, complicating the ability to determine exactly how much baclofen the infant received each day.

Conclusion

• The administration of a baclofen taper can prevent NAS in the setting of intrauterine baclofen exposure.