Article Summary

The emergence of cooling therapy to treat term newborns following intrapartum asphyxia raises new ethical considerations


Background and rationale

Intrapartum asphyxia, or oxygen supply interruption, is a cause of long-term seizures, cerebral palsy, intellectual disability, and other neurological impairments in newborns. In 2005, two randomized controlled trials validated the effectiveness of cooling to prevent adverse neurological outcomes following intrapartum asphyxia in term newborns; this therapy has since become widely used. Newborn cooling involves lowering the infant’s body temperature by 3-4 degrees Celsius for 72 hours following birth. This was the first therapeutic intervention that rescued newborns asphyxiated right before birth and improved their neurological outcomes. Nonetheless, newer studies of newborn cooling present ethical challenges to this therapy.

About this study and its findings

In this editorial, the author describes the difficulty in diagnosing intrapartum asphyxia and predicting neurological outcome following this event. In addition, he describes the advances offered by cooling therapy and discusses the ethical complications this therapy also poses.

What parents should know

For children who experience intrapartum asphyxia, long-term outcomes can range from normal development to death, with several intermediate outcomes in between. Intermediate outcomes include varying degrees of cerebral palsy, intellectual disability, scoliosis, or others. While cooling has been shown to be effective for improving outcomes for infants with a moderate degree of brain injury
following asphyxia, parents should be aware that this therapy may unfortunately do no more than delay a poor prognosis for infants with severe brain injury.

What practitioners should know

The emergence of neonatal cooling following intrapartum asphyxia raises interesting ethical concerns, since it improves the survival of children severely compromised by asphyxia. Practitioners will need to be attentive to the extensive medical, rehabilitative, and support services that these children will likely require throughout their lives. As with any new and promising therapy, practitioners will likely feel pressure to treat as many asphyxiated newborns as possible with cooling therapy. However, cooling is unnecessary for infants with mild brain injury, as they usually have a benign outcome regardless, and no benefits of cooling have been demonstrated for infants with severe brain injury. Clinicians should use cooling therapy according to the results of published studies. Currently, this means only using cooling treatment for infants who have moderate brain injury due to intrapartum asphyxia.