

Therapeutic Hypothermia in LMIC: A Conundrum for Today or Forever?

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Therapeutic hypothermia (HT) is a trusted and specific therapy of neuroprotection for babies with perinatal asphyxia. This therapy should be initiated within 6hrs, preferably within 3hrs (Thoresen M 2013) [1] after primary hypoxic ischemic insult (the sentinel event) in moderate to severe HIE term/near term infants after satisfying the cooling criteria. It involves in maintaining the core body temperature of the baby at 33.5°C for 72 hours. This is followed by gradual rewarming.

Evidence from high income countries (Jacobs SE 2013) [2] showed reduction in combined death and disability in moderate to severe HIE infants. It is the primary and specific therapy for these post asphyxiated infants in developed countries.

In a meta-analysis, therapeutic hypothermia in low to middle income countries (LMIC) failed to show similar results in post asphyxiated infants (Pouliah SS 2013) [3]. Conventional and cheaper methods of cooling were used in these babies. Recently a multinational, multicentre RCT trial (Helix trial 2021) [4] did not show the beneficial effects of HT on short and long-term in preventing death and disability in these HIE infants. Moreover this trial showed increased mortality among HT treated HIE babies.

At this juncture, the neonatal and paediatric fraternity in LMIC countries is in a dilemma whether to initiate therapeutic hypothermia or adopt enhanced post resuscitation neonatal care (C Maddela 2021) [5] or strict to standard care for these babies (@R5). When facility to initiate HT is neither available/recommended nor transfer to cooling centre is feasible, the available option for caring physician would be ensuring enhanced post resuscitation neonatal care to prevent death and disability in these post asphyxiated neonates (C Maddela 2022) [6].

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Bibliography

1. Thoresen M., *et al.* "Time is Brain: Starting Therapeutic Hypothermia within Three Hours after Birth Improves Motor Outcome in Asphyxiated Newborns". *Neonatology* 104 (2013): 228-233.
2. Jacobs SE., *et al.* "Cooling for newborns with hypoxic ischemic encephalopathy (Review)". *CDSR* 1 (2013): CD003311.
3. Pouliah SS., *et al.* "Therapeutic Hypothermia for Neonatal Encephalopathy in low to middle income countries: A systematic review and meta-analysis". *PLOS ONE* (2013).
4. Thayyil S., *et al.* "Hypothermia for moderate to severe neonatal encephalopathy in low-income and middle-income countries (HELIX): a randomised controlled trial in India, Sri Lanka, and Bangladesh". *The Lancet Global Health* 9 (2021).
5. Chakradhar Maddela. "Enhanced Post-Resuscitation Neonatal Care in Possibly Hypoxic Neonates at Resource Limited Setting: A Systematic Review". *Acta Scientific Paediatrics* 4.7 (2021): 77-86.
6. Chakradhar Maddela. "A Comprehensive Clinical Approach to Hypoxic Ischemic Encephalopathy in Term Infants: A Review". *Acta Scientific Paediatrics* 5.2 (2012): 37-44.