

# International Conference on Pediatrics & Gynecology

## Perinatal complications leading to hypoxic-ischemic encephalopathy in newborns

**Pia Wintermark**

Montreal Children's Hospital, McGill University, Canada

The pathogenesis of neonatal hypoxic-ischemic brain injury is still not completely understood. It is unclear why newborns with similar degrees of perinatal depression can develop very different degrees of brain injury. More over, it is currently not known why therapeutic hypothermia, which is the most widely accepted neuroprotective strategy to minimize brain injury in asphyxiated term newborns, seems effective in decreasing brain injury in some asphyxiated newborns but does not prevent all brain injuries. Antenatal processes in the placenta (e.g. inflammation, hypoxia) and perinatal complications (e.g. abruptio placenta, vasa praevia, shoulder dystocia) might contribute directly or indirectly to perinatal brain injury by impairing reserve, altering fetal physiologic condition, and generating potentially neurotoxic mediators.

This lecture will review antenatal placental processes and perinatal complications, which appear to be a predisposing factor for some of the adverse neonatal outcomes in term asphyxiated newborns, specifically those meeting the criteria for therapeutic hypothermia. This should permit to understand better the role of antenatal placental processes and perinatal complications in the progression from perinatal hypoxic ischemic conditions to brain injury.

### Biography

Dr. Pia Wintermark is an Assistant Professor of Pediatrics at McGill University and a Neonatologist at the Montreal Children's Hospital. She trained in pediatrics and newborn medicine at Lausanne University in Lausanne, Switzerland and at Harvard Medical School in Boston, USA. Her research focuses on understanding causes and consequences of brain injuries in newborns. She is using both clinical research (including advanced neuroimaging techniques and bedside monitoring) and basic science techniques to understand mechanisms underlying these brain injuries, with the goal of developing innovative solutions to prevent or repair these injuries and to improve future neurodevelopmental outcome of these newborns.