

Management and prognosis of perinatal stroke

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Abstract

Introduction: Perinatal stroke refers to an acute neurological syndrome with chronic sequelae that develops between 20 weeks gestation & 28 days post-partum caused by cerebral injury of vascular origin (arterial thromboembolism, cerebral sinovenous thrombosis [CSVT], or primary intracranial haemorrhage [ICH]). Wide variations in morbidity & mortality rates are seen following perinatal stroke depending upon the location & extent of brain injury.

Method: A comprehensive search of PubMed & EMBASE from January 2000 to October 2019 was made using 3 search items: perinatal stroke, antithrombotic therapy in neonates & children, & stroke rehabilitation. The search items were combined using the Boolean operator.

Results: The mainstay of treatment in perinatal stroke cases is supportive care aimed at preventing further cerebral injury by ensuring adequate oxygenation and correction of dehydration, electrolytes imbalances, metabolic disturbances, hypoglycaemia, hypocalcaemia, & anaemia. Antibiotics are given if infection is suspected. Anticonvulsants are given if seizures are seen or suspected (prolonged video-electroencephalogram monitoring may be necessary as clinical identification of seizures is unreliable in neonates). Unlike adults, most thromboembolic perinatal strokes do not recur or progress. Those who develop hydrocephalus are initially treated with ventricular drainage, followed by ventriculoperitoneal shunting if hydrocephalus persists.

Conclusion: Long-term neuro-developmental outcomes are normal in only 19-41% of thromboembolic perinatal stroke cases. Although 93-97% of newborns with CSVT survive the acute phase, in one study, the mortality rate was 19% when followed-up at a mean age of 19 months. Prognosis in ICH cases is even worse with multiple studies showing mortality & morbidity rates ranging between 4-15% & 44-77% respectively.



Biography:

Fazal-e-Rabi Subhani is currently working as a Pediatrician at The Rotunda Hospital in Rotunda, Dublin, Ireland. His main works are into the field of pediatrics and he has published many articles for the same.

Speaker Publications:

1. Ferriero DM, Fullerton HJ, Bernard TJ, et al. Management of Stroke in Neonates and Children: A Scientific Statement From the American Heart Association/American Stroke Association. *Stroke* 2019; 50:e51.
2. Monagle P, Chan AK, Goldenberg NA, et al. Antithrombotic therapy in neonates and children: Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. *Chest* 2012; 141:e737S.
3. Giglia TM, Massicotte MP, Tweddell JS, et al. Prevention and treatment of thrombosis in pediatric and congenital heart disease: a scientific statement from the American Heart Association. *Circulation* 2013; 128:2622.
4. Cole L, Dewey D, Letourneau N, et al. Clinical Characteristics, Risk Factors, and Outcomes Associated With Neonatal Hemorrhagic Stroke: A Population-Based Case-Control Study. *JAMA Pediatr* 2017; 171:230.
5. Hebert D, Lindsay MP, McIntyre A, et al. Canadian stroke best practice recommendations: Stroke rehabilitation practice guidelines, update 2015. *Int J Stroke* 2016; 11:459.

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