

Paediatric Stroke

Essay

*Submitted for Partial Fulfillment of Master Degree
in Neuropsychiatry*

By

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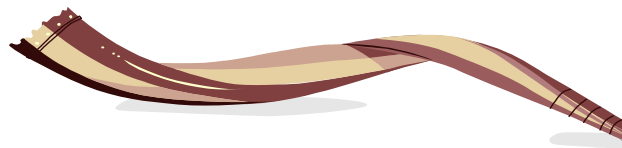
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List of Abbreviations

AAC.....	Alternative and augmentative communication
ACT.....	Anticoagulation therapy
AD	Autosomal dominant
AFOs	Ankle-foot orthoses
AIS.....	Arterial ischemic stroke
APTT.....	Activated partial thromboplastin time
AR	Autosomal recessive
ASA	Acetylsalicylic acid
AT-III	Antithrombin III
AVMs	Arteriovenous malformations
CNS	Central nervous system
CSE.....	Cardiac source of embolism
CSF.....	Cerebrospinal fluid
CSVT.....	Cerebral sino-venous thrombosis
CT.....	Computed tomography
CTA	CT angiography
CVT	Cerebral venous thrombosis
DAFOs.....	Dynamic ankle-foot orthose:
DWI.....	Diffusion-weighted imaging
EDAS.....	Encephalo-duro-arterio-synangiosis
EEG.....	Electroencephalogram
HIV.....	Human immunodeficiency virus
HS.....	Hemorrhagic stroke
ICA	Internal carotid artery
ICH	Intracerebral hemorrhage
ICP.....	Intracranial pressure

List of Abbreviations (Cont.)

ICU	Intensive care unite
INR	International normalized ration
IPH	Intraparenchymal hemorrhage
IPSS	International Pediatric Stroke Study
ITP	Immune thrombocytopenic purpura
IVH.....	Intraventricular hemorrhage
LMWH	Low molecular weight heparin
MCA	Middle cerebral artery
MELAS	Mitochondrial myopathy, encephalopathy, lactic acidosis, and stroke like episode
MMD	Moya moya disease
MRA	Magnetic resonance angiography
MRI	Magnetic resonance imaging
MRV	Magnetic resonance venography
MTHFR.....	Methylenetetrahydrofolate reductase
NHDS.....	National Hospital Discharge Survey
OWRS	Osler-Weber-Rendu syndrome
PAPS	Primary antiphospholipid antibody syndrome
PET	Positron emission tomography
PFO.....	Patent foramen ovale
PMM.....	Phosphomannomutase
PT	Prothrombin time
PTT	Partial thromboplastin time
RCT.....	Randomized controlled trial
rTPA	Recombinant tissue plasminogen activator

List of Abbreviations (Cont.)

SCD	Sickle cell disease
SPECT	Single photon emission tomography
STA-MCA	Superficial temporal artery-middle cerebral artery
STICH.....	Surgical Trial in Intracerebral Haemorrhage
STOP.....	Stroke Prevention Trial in Sickle Cell Anemia
TCD	Transcranial Doppler
TEE.....	Transesophageal echocardiography
TGF	Transforming growth factor
TIA	Transient ischemic attack
TTE.....	Transthoracic and transesophageal color-flow Doppler
TTP.....	Thrombotic thrombocytopenic purpura
UFH.....	Unfractionated heparin
UK	United kingdom
WARRS	Warfarin-Aspirin Recurrent Stroke Study
XR	X-linked recessive

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Introduction

The World Health Organization has defined stroke as "rapidly developing clinical signs of focal (at times global) disturbance of cerebral function, lasting more than 24 hours or leading to death with no apparent cause other than that of vascular origin." By conventional clinical definitions, if the neurologic symptoms continue for more than 24 hours, a person is diagnosed with stroke; otherwise, a focal neurologic deficit lasting less than 24 hours is defined as a transient ischemic attack (TIA) (*Sacco, 2005*).

Pediatric stroke - a cerebrovascular event in a child aged 30 days to 18 years - is estimated to occur in 2 to 3 of every 100,000 children in the United States per year (*Nield et al., 2006*). Long-term outcome for survivors of hemorrhagic and ischemic stroke is nearly the same in children (*Fullerton et al., 2004*).

In the adult patient, atherosclerosis and hypertension predispose to ischemic and hemorrhagic stroke, respectively. Other risk factors include diabetes, elevated lipids, and cardiovascular disease. These risk factors are rare in the pediatric population, however, Strokes in children arise from numerous causes. Cardiovascular disease and sickle cell disease are the most common etiologies. Congenital heart disease has been reported as the leading cause of childhood stroke (*Carlin and Chanmugam, 2002*).