BJMS
Borneo Journal of Medical Sciences

ABSTRACT

Diagnostic Dilemma of Intracranial Aneurysm in Neonatal Subarachnoid Haemorrhage (SAH)

Teo Yin Eie[1*], Farihah Abd Ghani[1], Nik Shah Hizan Nik Lah[1], Prabu Rau Sriram[2]

[1] Department of Radiology, Hospital Wanita dan Kanak-kanak Sabah, Kota Kinabalu, Sabah, Malaysia
[2] Department of Neurosurgery, Hospital Wanita dan Kanak-kanak Sabah, Kota Kinabalu, Sabah, Malaysia

*Corresponding author's email: yineie@hotmail.com

Keywords: neonatal, subarachnoid haemorrhage, intracranial aneurysm, non-accidental injury

Introduction: Cerebral aneurysm is an exceedingly rare aetiology of neonatal Subarachnoid Haemorrhage (SAH). Detailed history and pattern recognition of the SAH is crucial in suspecting aneurysm. **Objective:** To determine diagnostic of intracranial aneurysm in Neonatal Subarachnoid Haemorrhage (SAH). **Case description:** A 22-day-old baby boy presented with a 5-min generalized tonic-clonic fit 4 hours after a car-to-car motor vehicle accident. The baby fell down from his mother's arms and landed on the floor of the back passenger car seat. Urgent CT brain showed diffuse right-sided cerebral SAH with significant blood products in the right suprasellar cistern and the dilated ventricles. There was also presence of right tentorium cerebelli and posterior interhemispheric fissure subdural haemorrhage, right parietal skull fracture and diffuse cerebral oedema. Due to abundant right-sided suprasellar cistern haemorrhage and the extent of haemorrhages were disproportionate to the trivial trauma, with high level of suspicion of ruptured aneurysm, an urgent MRI brain was performed. It revealed a 0.7-cm saccular aneurysm at the bifurcation of right internal carotid artery. Surgical clipping was not done as CT angiogram subsequently showed the aneurysm thrombosed. It remained thrombosed in a repeated MRI 3 weeks later. The child was discharged with swallowing discordance and hypertonicity after one-month hospitalization. **Discussion:** Comprehensive literature reviews indicated

neonatal intracranial aneurysm differs from adult-type in terms of gender predominance, site, incidence of giant aneurysm, aetiology and clinical outcome. The neonatal aetiologies remain unclear since atherosclerosis is uncommon at this age group. Intrinsic factors including congenital or inherited genetic disorders should be sought. Pertaining to our case, with the given history of trivial trauma, presence of skull fracture and extensive intracranial haemorrhages should raise the possibility of non-accidental injury and further investigations are warranted. Undetected negligence may lead to devastating consequences. **Conclusion:** Intracranial aneurysm is extremely rare among neonates. Relevant history and scrutinization of the pattern of SAH are the clues to its diagnosis.