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# Rare Clinical Image of Moyamoya Disease in Young Child

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Keywords: Moyamoya disease, stroke, Circle of Willis, MR-Angiography, M.R.I



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*Interesting Images*

# Title – Rare Clinical Image of Moyamoya Disease in Young Child

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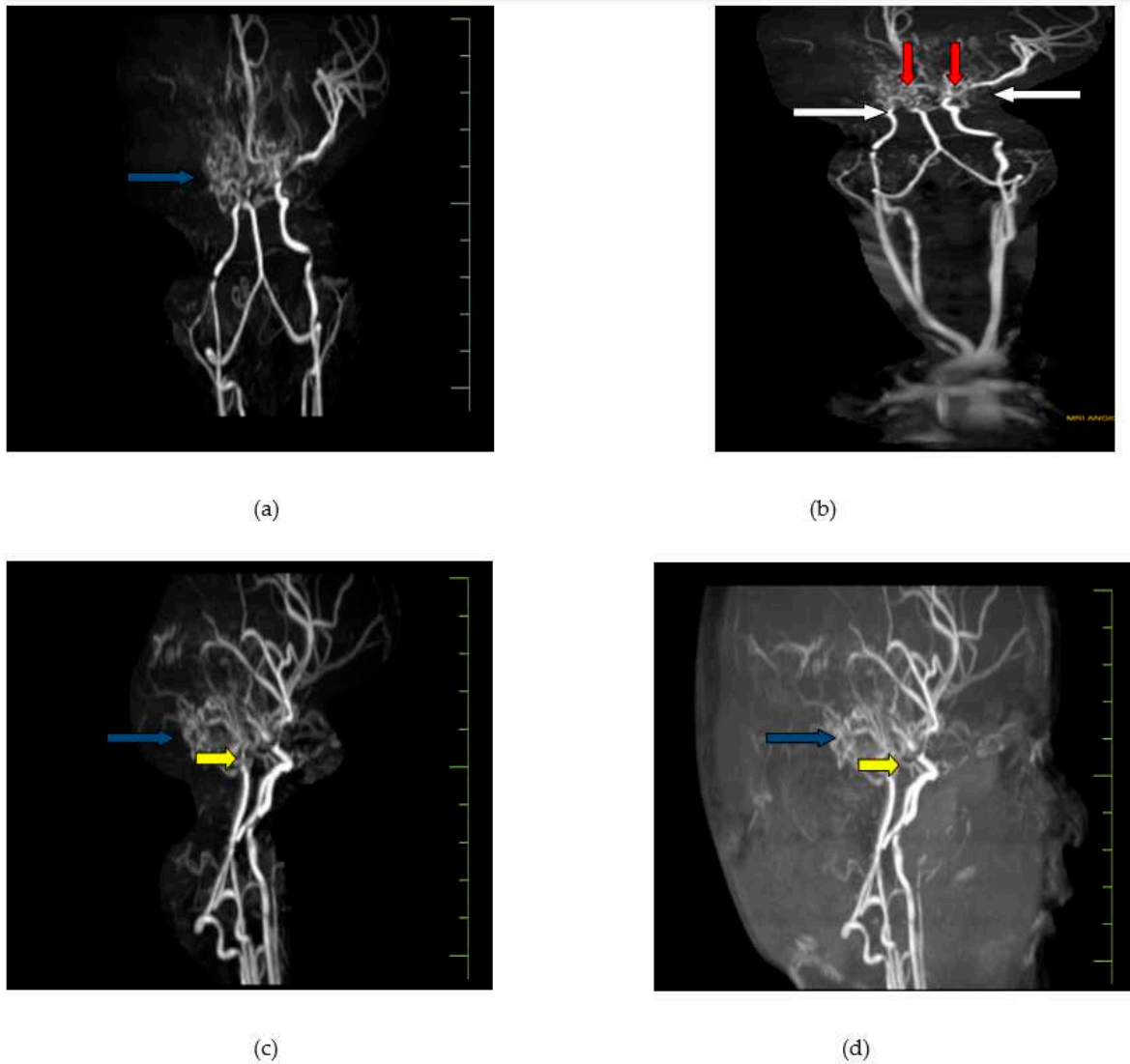
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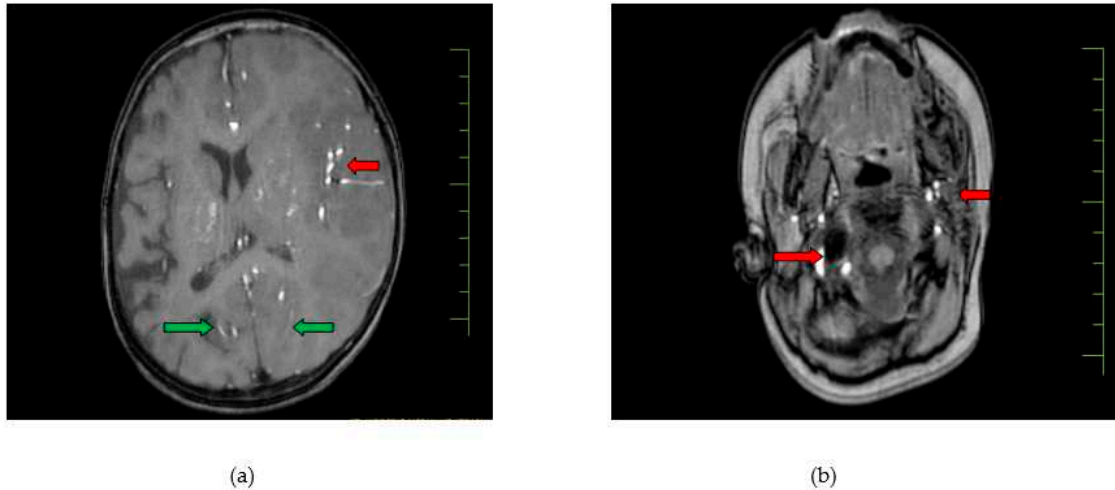
**Abstract:** Moyamoya disease is also termed a spontaneous obstruction of the arteries in the circle of Willis. It is recognized as the leading cause of ischemic and hemorrhagic stroke. The infrequent cause of stroke is radiologically characterized by the continuous progression of stenosis of the end portion of the bilateral internal carotid artery and compensatory capillaries collaterals. A 1yr old child was admitted to the pediatric I.C.U with a complaint of decreased sensorium, decreased food intake and decreased right upper and lower extremity movements past two days. He had a history of convulsions at seven months of age. He was diagnosed with Moyamoya disease on Magnetic Resonance cerebral angiography. The clinical findings on MR-Angiography show multiple collaterals noted around Circle of Willis, specifically around the posterior communicating artery, anterior communicating artery, posterior cerebral artery, bilateral lenticulostriate, thalamoperforating arteries and medialfrontobasal arteries, which is suggestive of Moyamoya disease. Magnetic resonance imaging of the brain shows Gyral diffusion restriction in a right fronto-parieto-temporal region with mild swelling. The above clinical findings on MR-angiography show the Moyamoya disease in 1year old male child. These clinical findings on MR-Angiography and M.R.I – brain and neck can help the clinician accurately diagnose and manage this rare case.

**Keywords:** Moyamoya disease; stroke; Circle of Willis; MR-Angiography; M.R.I

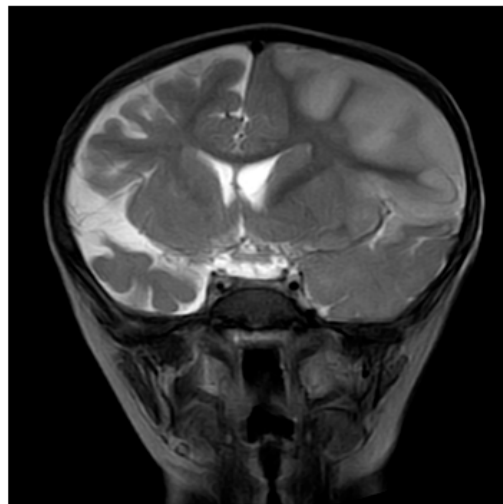
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**Figure – Magnetic Resonance Cerebral Angiography:** a, b) bilateral narrowing of the internal carotid artery (white arrow) and growth of multiple collateral arteries along the lenticulostriate arteries (red arrow). It shows a puff of smoke sign which describes the characteristic angiographic appearance of a tiny abnormal intracranial collateral vessel network. Multiple collaterals are noted around the Circle of Willis, namely around the posterior cerebral artery, posterior communicating artery, anterior communicating artery, bilateral lenticulostriate and thalamoperforating arteries. c, d) shows stenosis (yellow arrow) of the right middle cerebral artery along with multiple collaterals and a puff of smoke appearance (blue arrow) [1-4].



**Figure Magnetic resonance cerebral angiography:** a) shows Ivy sign (green arrow). (a,b) shows chronic watershed area (red arrow) infarction in the middle cerebral artery and posterior cerebral artery involving fronto-temporo-parietal lobe. Watershed infarcts are termed infarctions localized at the distal territories at the junction between two main arterial parts [1,3,5,6].



(a)

**Figure Magnetic Resonance Imaging of brain** –a) Coronal FLAIR sequence of M.R.I. shows gyral diffusion restriction in the right fronto-parietal-temporal regions with mild swelling. Chronic infarct is seen in the right Middle cerebral artery [1,3,5].

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**Conflict of Interest:** The authors declare no conflict of interest.

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