View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by University of Kentucky

University of Kentucky
UKnowledge

Neurology Faculty Publications

Neurology

11-2018

Pediatric Cardioembolic Stroke in Midaortic Syndrome

Ana C. Albuja
University of Kentucky, ana.albuja@uky.edu

Mauricio F. Villamar
University of Kentucky, mvillamar@uky.edu

Alejandra M. Stewart
University of Kentucky

Donita D. Lightner
University of Kentucky, donita.lightner@uky.edu

Follow this and additional works at: https://uknowledge.uky.edu/neurology_facpub

 Part of the Neurology Commons, and the Pediatrics Commons

Right click to open a feedback form in a new tab to let us know how this document benefits you.

Repository Citation

Albuja, Ana C.; Villamar, Mauricio F.; Stewart, Alejandra M.; and Lightner, Donita D., "Pediatric Cardioembolic Stroke in Midaortic Syndrome" (2018). *Neurology Faculty Publications*. 66.
https://uknowledge.uky.edu/neurology_facpub/66

This Article is brought to you for free and open access by the Neurology at UKnowledge. It has been accepted for inclusion in Neurology Faculty Publications by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

Pediatric Cardioembolic Stroke in Midaortic Syndrome

Digital Object Identifier (DOI)
https://doi.org/10.1590/0004-282X20180117

Notes/Citation Information
Published in *Arquivos de neuro-psiquiatriam*, v. 76, no.11.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

This article is available at UKnowledge: https://uknowledge.uky.edu/neurology_facpub/66

https://doi.org/10.1590/0004-282X20180117

Pediatric cardioembolic stroke in midaortic syndrome

Acidente vascular cerebral cardioembólico pediátrico na síndrome da aorta média

Ana C. Albuja[1], Mauricio F. Villamar[1], Alejandra M. Stewart[1], Donita D. Lightner[1]

A previously-healthy 18-month-old girl had a right hemibody seizure followed by prolonged hemiparesis. Blood pressure was above the 99th percentile for her age, and it was higher in the upper extremities (UE) than in the lower extremities (LE). Femoral pulses were decreased.

Figure 1 shows the brain MRI. A transthoracic echocardiogram revealed an ejection fraction of 22%, without intracardiac shunting. An abdominopelvic CT angiogram demonstrated a midaortic syndrome (Figure 2). Hypercoagulability and rheumatological studies were normal.

Midaortic syndrome is a rare disorder with stenosis of the distal thoracoabdominal aorta. Its classic triad includes abdominal bruit, elevated UE/LE blood pressure ratio, and decreased LE pulses. Most cases (~60%) are idiopathic. Secondary causes/associations include aortitis, atherosclerosis, neurocutaneous syndromes, and Williams syndrome. Midaortic syndrome patients can develop subarachnoid or intraparenchymal hemorrhages or, rarely, ischemic strokes[1,2,3].

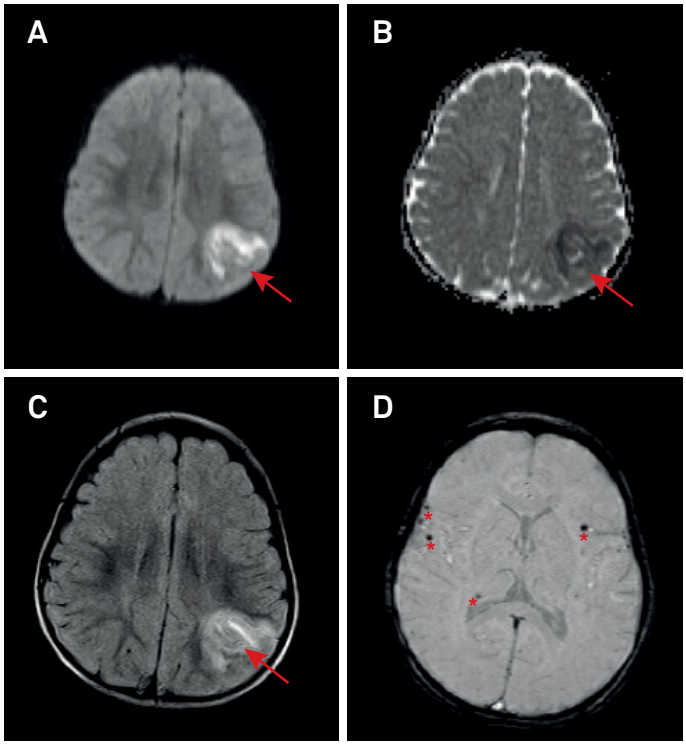

Figure 1. Neuroimaging findings: Non-contrast brain MRI shows subacute left parietal infarct (arrows) on diffusion-weighted (1A), apparent diffusion coefficient (1B), and T2-FLAIR sequences (1C). Susceptibility-weighted images reveal scattered foci of microhemorrhages (1D, asterisks). Given imaging findings consistent with embolic stroke, severely decreased left ventricle ejection fraction, lack of intracardiac shunting, normal hypercoagulability and rheumatological studies, and no other sources of emboli, the stroke mechanism is likely cardioembolic from severe systolic dysfunction.

[1]University of Kentucky, Department of Neurology, Lexington, KY, USA.

Correspondence: Ana C. Albuja; Department of Neurology, University of Kentucky; 740 South Limestone St, Kentucky Clinic – J422; Lexington, KY, United States 40536-0284; E-mail: aalbuja@lifespan.org

Conflict of interest: There is no conflict of interest to declare.

Received 11 April 2018; Received in final form 22 May 2018; Accepted 29 July 2018.

CC BY

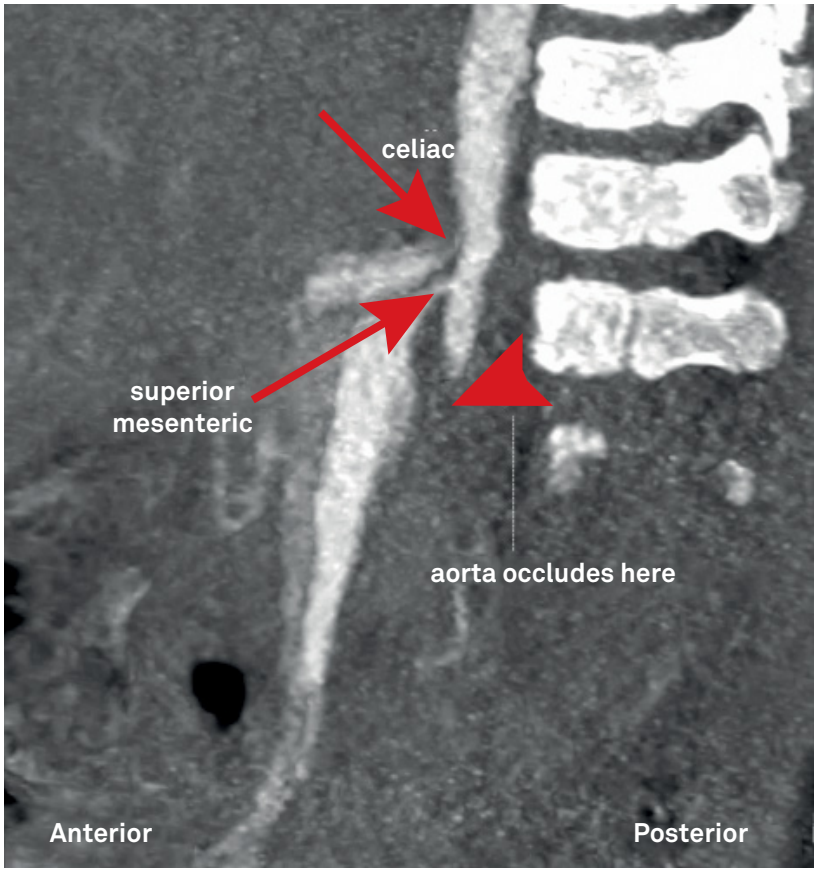

Figure 2. Midaortic syndrome: Abdominal CT angiogram shows tapering of the abdominal aorta just below the renal arteries (arrowhead), and stenosis at the origin of the celiac trunk and superior mesenteric artery (arrows).

References

1. Sethna CB, Kaplan BS, Cahill AM, Velazquez OC, Meyers KE. Idiopathic mid-aortic syndrome in children. Pediatric nephrology 2008 Jul;23(7):1135-42. https://doi.org/10.1007/s00467-008-0767-4
2. Porras D, Stein DR, Ferguson MA, Chaudry G, Alomari A, Vakili K, Fishman SJ, Lock JE, Kim HB.. Midaortic syndrome: 30 years of experience with medical, endovascular and surgical management. Pediatr Nephrol. 2013 Oct;28(10):2023-33. https://doi.org/10.1007/s00467-013-2514-8
3. Dam K1, Palen RL, Tanke RB, Schreuder MF, Jong H.. Clinical recognition of mid-aortic syndrome in children. Eur J Pediatr 2013 Mar;172(3):413-6. https://doi.org/10.1007/s00431-012-1800-y