Vertebrobasilar dolichoectasia treatment

The best conventional management of Vertebrobasilar dolichoectasia may be the control of arterial hypertension. According to series studies, arterial hypertension not only plays a role in the formation and enlargement of intracranial dolichoectasia, but also contributes to the increased incidence of both ischemic stroke and intracranial hemorrhage [1) 2)].

Risk of bias in the studies are too high to make any recommendation regarding treatment [3)].

If the condition of the patients is stable and benign, they can be treated with medication or stent reconstruction. Given the serious complications that can be caused by open surgery, care must be taken when selecting the patients to be treated using open surgery, but more studies are needed to support this conclusion. The key points are to avoid aneurysm thrombosis and maintain patency of the perforators [4)].

Transposition techniques are often required to decompress the brainstem with dolichoectatic pathology.

When indicated, the operative techniques utilized to address vertebrobasilar artery dolichoectasia must be individually tailored, can be technically challenging, and have been rarely expounded.

The surgical techniques that Barrow and Ellis from the Emory University Hospital and Lenox Hill Hospital, have employed to alleviate the compression, included simple decompression as well as sling-assisted arterial transposition. The evolution and refinement of ther transposition technique are detailed.

A wide range of pathological conditions may result from compression of neural structures throughout the course of the vertebrobasilar system. Compression of cervical nerve roots, the spinal cord, brainstem, and cranial nerves can be seen. Microsurgical management may be indicated in selected cases with gratifying results.

Pathological compression of neural structures throughout the course of the vertebrobasilar system should be recognized. When indicated, microsurgical decompression must be tailored to the individual symptomology and the unique anatomic relationship in each case with the potential to prevent neurological worsening and, in many cases, improve functional outcome [5)].

1)
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2)
Passero SG, Calchetti B, Bartalini S. Intracranial bleeding in patients with vertebrobasilar dolichoectasia. Stroke. 2005;36:1421–5.
3)
Wolters FJ, Rinkel GJ, Vergouwen MD. Clinical course and treatment of vertebrobasilar dolichoectasia: a systematic review of the literature. Neurol Res. 2013 Mar;35(2):131-7. doi: 10.1179/1743132812Y.0000000149. Review. PubMed PMID: 23452575.
4)

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5)

Barrow DL, Ellis JA. Microsurgical Strategies for the Treatment of Compression Neuropathies Secondary to Vertebrobasilar Dolichoectasia: From Simple Decompression to Sling Transposition. Oper Neurosurg (Hagerstown). 2018 Dec 27. doi: 10.1093/ons/opy391. [Epub ahead of print] PubMed PMID: 30590732.