A New Test for Vertebrobasilar Insufficiency

By Warren Hammer, MS, DC, DABCO

A variety of tests have been used for determining the effect of spinal motion on vertebral artery patency. In George’s test, we first measure the bilateral blood pressure, pulse rates, and auscultate the subclavian and carotid arteries.

The patient is next asked to rotate the head right and left, and then rotate, laterally bend and extend in the seated position (Maigne’s test) and in the supine position (DeKleijn’s test). Signs of nausea, tinnitus, vertigo, light headaches, slurring of speech, dizziness or nystagmus may indicate vascular compromise or stenosis of the carotid or vertebral arteries.¹

There is a "dizziness test" to distinguish between the vertebral artery and the semicircular canals of the inner ear. The seated patient with the shoulders stabilized has his neck actively rotated left and right to the end range. Next, the head is stabilized in neutral by the examiner and the shoulders are actively rotated as far right and left as possible. If the patient experiences dizziness in both cases, the vertebral arteries may be involved. If dizziness is experience only when the head is rotated, the semicircular canals are probably involved.²

Michael Leahy, DC, originator of active release technique, has devised what he calls the vertebral artery tension test (VATT).³ He has performed the test on 300 consecutive cases in which cervical manipulation was contemplated. Of the 300 cases, he found that George’s test was positive in only one case causing very mild dizziness, while the VATT was positive in 12 of the 300 cases causing dizziness or nystagmus. He theorizes that due to trauma or the cumulative trauma injury cycle, the vertebral artery may be adversely affected by adhesions as it passes posterior, medial and superior from the atlas. At this location, the artery lies close to or in actual contact with the superior oblique, rectus capitis posterior and the posterior atlanto-occipital membrane.

The examiner holds tension medially and superiorly just inferior to the superior oblique and superior to the atlas while slowly rotating the patient’s head ipsilaterally. The head is held in the rotated position for 10 seconds or until symptoms develop. In order for you to effectively learn how to perform this test, a demonstration is absolutely necessary since there is much more to know about this technique than the above explanation. Soft-tissue treatment to the longissimus capitis, splenius capitis, superior oblique and rectus
capitis posterior major resulted in a negative VATT test for the 12 positive patients mentioned above.

It is important to realize that arteriosclerosis, osteophytes or congenital atresia of the artery are possible causes of vertebrobasilar insufficiency. Fifty-eight percent of Americans have a congenital abnormality of the vertebral artery.4 Finally, a study by Haynes5 indicated that cervical rotation produced more mechanical stress on the vertebral artery than cervical lateral flexion.

References


4. Personal communication with Marino Passero, DC, 10/12/98.


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