

MRA (Magnetic Resonance Angiogram) Carotid and Vertebral

CPT: 70547, 70548, 70549

1 Major Symptom or Complaint presented as primary indication

1.1 Orbital pain, unilateral

1.2 For other symptoms see list under Working Diagnosis: Vertebrobasilar Insufficiency

2 Working Diagnosis or Rule Out presented as primary indication

2.1 Carotid dissection, suspected

2.1.1 Horner's syndrome, miosis and ptosis (contraction of the iris, drooping eyelid)

2.1.2 Minor neck trauma (includes chiropractic manipulation)

2.1.3 Neck pain

2.1.4 Transient Ischemic Attacks (TIA)

2.1.5 Unilateral facial or orbital pain

2.1.6 Unilateral headaches

References

1. Stewart Lloyd Carotid artery dissection following minimal postural trauma in a firefighter Occup Med (Lond) 54: 430-431.
2. B Thanvi, S K Munshi, S L Dawson, T G Robinson Carotid and vertebral artery dissection syndromes Postgrad Med J 2005;81:383-388
3. Ernst, E Adverse effects of spinal manipulation: a systematic review J R Soc Med 2007 100: 330-338
4. D J M Macdonald, E C A McKillop Carotid artery dissection after treadmill running Br J Sports Med 2006

2.2 Vertebro Basilar Insufficiency Approve if there are two symptoms, or one symptom and any risk factor.

2.2.1 Symptoms

2.2.1.1 Amaurosis fugax

2.2.1.2 Amnesia

2.2.1.3 Aphasia, sudden onset of

2.2.1.4 Ataxia

2.2.1.5 Cognitive changes

2.2.1.6 Conjugate gaze paralysis

2.2.1.7 Cortical blindness

2.2.1.8 Diplopia

2.2.1.9 Disorientation (cognitive change)

2.2.1.10 Dizziness or vertigo with any other neurological sign

2.2.1.11 Double vision, Diplopia

2.2.1.12 Drop Attack

2.2.1.13 Dysarthria

2.2.1.14 Dysphagia

2.2.1.15 Facial numbness or paresthesias

2.2.1.16 Facial pain, unilateral

2.2.1.17 Focal neurologic deficit, sudden onset of

2.2.1.18 Hand spasms

2.2.1.19 Headache, may be unilateral

2.2.1.20 Hearing Loss

2.2.1.21 Homonymous hemianopia

2.2.1.22 Intention tremor

2.2.1.23 Loss of vision

2.2.1.24 Memory loss (cognitive change)

2.2.1.25 Motor speech disorder

2.2.1.26 Nausea

2.2.1.27 Neck pain

2.2.1.28 Numbness

2.2.1.29 Nystagmus

2.2.1.29.1 Definition: repetitive, rhythmic oscillations of one or both eyes in any or all fields of gaze

2.2.1.30 Oculosympathetic palsy (miosis and ptosis)

2.2.1.31 Ophthalmoplegia

2.2.1.32 Paralysis, of tongue

2.2.1.33 Paralysis, sudden onset of

2.2.1.34 Sensory changes, sudden onset of

2.2.1.35 Syncope

2.2.1.36 Tinnitus

2.2.1.36.1 Tinnitus, non pulsatile

2.2.1.36.1.1 Suggest MRI with gadolinium

2.2.1.36.2 Tinnitus, pulsatile

2.2.1.36.2.1 Suggest CTA or MRA of the brain, can approve contrast enhanced CT

2.2.1.37 Vertigo

2.2.1.37.1 Vertigo requires the patient to experience a sense of spinning, of either the patient, or the surroundings. it is more than dizziness, lightheadedness or imbalance.

2.2.1.38 Visual Changes

2.2.1.39 Vomiting

2.2.1.40 Weakness involving structures on both sides of the body

2.2.1.41 Weakness, sudden onset of

2.2.2 Risk Factor for Vertebrobasilar Insufficiency ANY ONE

2.2.2.1 Autosomal Polycystic Kidney Disease

2.2.2.2 Cardiac irregularities

2.2.2.3 Chronic HTN

2.2.2.4 circulation problems in other parts of the body

2.2.2.5 Diabetes

2.2.2.6 Drug use

2.2.2.7 heart disease

2.2.2.8 Hypercholesterolemia

2.2.2.9 inflammatory disorder of the carotid wall

2.2.2.10 severe anemia

2.2.2.11 Smoker

2.2.2.12 VERY low BP

References

1. Barnett HJ, Taylor DW, Eliasziw M, et al. Benefit of carotid endarterectomy in patients with symptomatic moderate or severe stenosis: North American Symptomatic Carotid Endarterectomy Trial Collaborators. N Engl J Med 1998; 339:1415-1425
2. Mark J.W. Koelemay, Paul J. Nederkoorn, Johannes B. Reitsma, and Charles B. Majoie Systematic Review of Computed Tomographic Angiography for Assessment of Carotid Artery Disease Stroke 35: 2306-2312
3. Constantine C. Phatouros, Randall T. Higashida, Adel M. Malek, Philip M. Meyers, Todd E. Lempert, Christopher F. Dowd, and Van V. Halbach Carotid Artery Stent Placement for Atherosclerotic Disease: Rationale, Technique, and Current Status Radiology 2000
4. Josephson, S. A., Bryant, S. O., Mak, H. K., Johnston, S. C., Dillon, W. P., Smith, W. S. Evaluation of carotid stenosis using CT angiography in the initial evaluation of stroke and TIA Neurology 2004 63: 457-460

3 Abnormal Physical Exam Finding presented as primary indication

4 Significant Prior Medical History presented as primary indication

4.1 Circulatory problems elsewhere in the body

4.2 Marfan Syndrome

4.3 Osteogenesis imperfecta type 1

4.4 Pseudoxanthoma elasticum

4.5 Stroke

4.6 TIAs

4.7 Trauma

4.7.1 Trauma in this case need be nothing more severe than neck manipulation as in a chiropractic treatment.

5 Abnormal Lab or Imaging presented as primary indication

5.1 Carotid duplex exam showing greater than 60% narrowing

5.2 Carotid duplex exam showing ulcerated plaque

5.3 Carotid Stenosis greater than 50%

5.3.1 Chronic HTN

References

1. "About 1% of patients with a symptomatic ICA stenosis have an intracranial aneurysm with a higher than negligible risk of rupture..."
2. Laura M. Héman, Lisa M. Jongen, H. Bart van der Worp, Gabriel J.E. Rinkel, and Jeroen Hendrikse " Incidental Intracranial Aneurysms in Patients With Internal Carotid Artery Stenosis: A CT Angiography Study and a Metaanalysis Stroke, Apr 2009; 40: 1341 – 1346.
3. Barnett HJ, Taylor DW, Eliasziw M, et al. Benefit of carotid endarterectomy in patients with symptomatic moderate or severe stenosis: North American Symptomatic Carotid Endarterectomy Trial Collaborators. N Engl J Med 1998; 339:1415-1425
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5. Constantine C. Phatouros, Randall T. Higashida, Adel M. Malek, Philip M. Meyers, Todd E. Lempert, Christopher F. Dowd, and Van V. Halbach Carotid Artery Stent Placement for Atherosclerotic Disease: Rationale, Technique, and Current Status Radiology 2000
6. Josephson, S. A., Bryant, S. O., Mak, H. K., Johnston, S. C., Dillon, W. P., Smith, W. S. Evaluation of carotid stenosis using CT angiography in the initial evaluation of stroke and TIA Neurology 2004 63: 457-460