Title: Carotid and Vertebral Artery Dissection
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Abstract: Carotid and vertebral artery dissection is a rare but important cause of stroke, accounting for roughly 20% of strokes in patients under the age of 45. Although the risk factors remain poorly understood, acute infection, trivial trauma and chiropractic manipulation have all been implicated. Moreover, up to half of patients with dissection have been found to exhibit connective tissue abnormalities upon microscopic analysis of skin biopsies.

TIME IS BRAIN!!

Carotid and vertebral artery dissection are just two of several different types of stroke. All types of stroke can lead to death or permanent disability. Treatment is only effective if administered early. Every minute counts.

At the first sign of stroke, call 911

Stroke warning signs:

Weakness on one side
Numbness on one side
Facial droop on one side
Dizziness or vertigo
Full or partial loss of vision
Sudden severe headache
Difficulty speaking
Difficulty understanding

Important: Even temporary symptoms may be a sign that you could soon have a major stroke. Seek medical assistance immediately if you notice ANY warning signs, even if they resolve in a few minutes.

For More Information:

Vertebral Artery Dissection:
www.emedicine.com/emerg/TOPIC832.HTM

Carotid Artery Dissection:
www.emedicine.com/emerg/TOPIC82.HTM

Stroke:
*www.**stroke**association.org*

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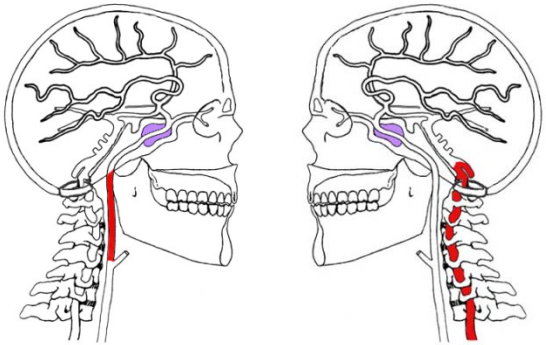
Carotid and Vertebral Artery Dissection

A leading cause of stroke in young people

Information for patients and families

Two arteries that feed the brain

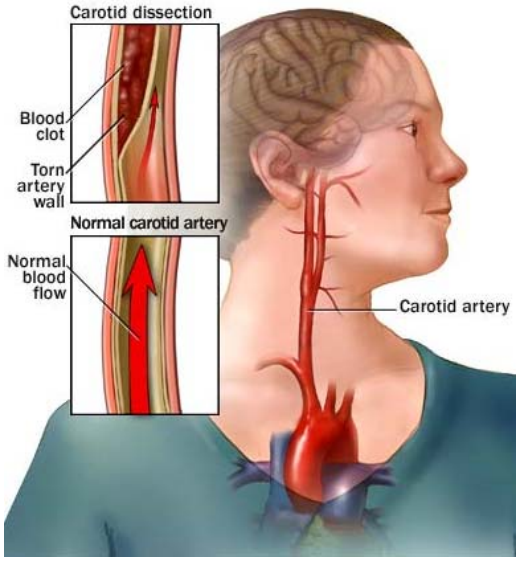


The carotid arteries (above left) and vertebral arteries (above right) supply blood to the front and the back of the brain respectively. There is a carotid and vertebral artery on each side, for a total of 4 blood vessels feeding the brain. Interruption of blood flow (stroke) to any part of the brain can be devastating or fatal. Brain cells that die as a result of stroke cannot be replaced.

Dissection: Not your average stroke

Most strokes are caused by atherosclerosis which develops slowly throughout life, leading to narrowing and finally blockage of arteries. Some strokes are caused by blood clots that travel from the heart or from artherosclerotic vessels into the brain. In other cases, stroke can be caused by rupture of blood vessels in the brain. Dissections, are slightly different from all of these, and can affect healthy people at a young age. Roughly 20% of strokes in patients under the age of 45 are caused by dissection. By contrast, dissection account for less than 2% of strokes in older patients.

How does dissection cause stroke?



A dissection involves a tear in a blood vessel wall, within which a blood clot forms. As the clot grows, it may cause the open area (lumen) of the blood vessel to collapse, thereby hampering blood flow. The tear usually actually extends into the lumen, allowing blood to enter and further enlarge the tear. More importantly, the clot may grow into the lumen causing more complete occlusion of the artery. Some people have enough blood flow through their remaining 3 arteries to adequately supply the brain. However, pieces of clot can break off and travel deep into the brain (embolism) putting all people with dissections at risk for stroke. To minimize stroke risk, patients with dissection are usually treated with anticoagulation to inhibit clot formation.

Who is at risk for dissection?

Unfortunately, it is not well understood why dissection occurs. Typically, it occurs in young healthy people, though it may occur at any age. Often, patients with dissection will recall a small trauma (such as a cough, or sneeze) that preceded the symptoms. Symptoms may subsequently range from mild neck pain to severe stroke. Recent data, however, suggest that acute infection itself may be a stronger risk factor than trauma. Many studies have suggested that chiropractic manipulation may provoke a dissection, however, further studies are needed. There is an increased risk of dissection in patients with connective tissue disorders, including fibromuscular dysplasia, Marfan's and Ehrlers-Danlos syndrome. Nevertheless, dissection is still occurs in only 1-5% of these patients. Microscopic analysis of skin in patients who develop dissections reveals that about half have abnormalities in their connective tissue. Five percent of patients have a family member with an aortic or other vessel dissection.