CEREBRAL AMYLOID ANGIOPATHY (CAA)

Massachusetts General Hospital

Early Detection of Angiopathy Network

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What is CAA?

- **CAA is** a **neurological** condition – meaning one that affects the brain.
- **CAA is** a condition that causes **amyloid protein** to build up in the walls of blood vessels in the brain.
- **CAA is** a condition that occurs commonly in the elderly, often without symptoms.

- **CAA is not** the same disease as Amyloidosis or Alzheimer’s Disease.

The amyloid buildup caused by **CAA is not** the same as the plaque buildup in blood vessels caused by risk factors like high cholesterol.

Massachusetts General Hospital Stroke Research Center, Boston, MA 02114       www.angiopathy.org
What does CAA look like?

This is what a section of a brain with CAA looks like under a microscope. The large round structures are the walls of blood vessels. When amyloid is present in the blood vessel walls, a special dye stains them pink with greenish streaks.

Damage caused by amyloid to blood vessel walls can make vessels leaky or not work normally.
What are the Symptoms of CAA?

There are a wide range of symptoms in CAA - some people experience many, while others experience none.

- Some symptoms include:
  - **Bleeding** in the brain*
  - Changes in cognitive function
    *Like memory loss and slower processing speed*
  - Changes in gait (the way you walk)
  - “Amyloid spells” – short-lived episodes of tingling, numbness or confusion

*In severe or progressed CAA, the amyloid that causes bleeding in the brain can cause tiny bleeds (microbleeds) or large bleeds (macrobleeds). Macrobleeds in the brain are a form of stroke know as *hemorrhagic stroke*.
What Causes CAA?

The exact cause(s) of CAA are unknown.

- One major risk factor is increasing age: CAA is most common in people ages 65 and older, although people younger than 65 can be diagnosed with CAA.

- While there is some genetic component to CAA, most people who have the disease are the only person in their family to be affected.

- No food or environmental exposure has been shown to cause CAA.
How is CAA Diagnosed?

CAA cannot be diagnosed with 100% certainty during a patient's lifetime; however, doctors can use certain tests to determine if CAA is a *likely* diagnosis.

• Imaging tests, or “scans,” can show patterns in the brain commonly seen in CAA. Some of the scans that are used are:
  - MRI (Magnetic Resonance Imaging)
    *MRI is the most effective scan for diagnosing CAA
  - CT (Computerized Tomography)
  - PET (Positron Emission Topography)

• Other tests that may be done are:
  - Lumbar puncture (also called a spinal tap)
  - Brain biopsy (as seen in the picture on slide 3, but rarely used)
CAA and other Brain Diseases

CAA, Amyloidosis and Alzheimer’s Disease (AD) are three different conditions.

• Having CAA does not mean you will develop Alzheimer’s Disease, and vice versa.

• People can have both CAA and Alzheimer’s Disease but most people who have one disease do not have the other.

• CAA & Alzheimer’s Disease affect the brain.

• Amyloidosis, diagnosed by a doctor, refers to an unrelated disease that affects other parts of the body such as the heart, kidneys and digestive system.
CAA Treatment Options

Treatment for CAA and questions about medications should always be discussed with your doctor.

• There is not currently a cure for CAA; however, researchers are investigating potential drugs to slow the disease.

• To try and reduce CAA-related symptoms, a doctor might:
  – Manage your “blood thinning” medications to reduce risk of having a bleeding stroke.
  – Treat high blood pressure, if applicable.
  – Counsel you to avoid heavy alcohol use.
    No more than 1-2 drinks/day for men; 1 drink/day for women.
  – Recommend a heart-healthy diet and lifestyle.
Remember!

• If you have questions about CAA, its treatment, or medications: contact your doctor.

• For more detailed information about CAA, you can also consult a stroke specialist at a major medical center.

  *Many doctors are still unfamiliar with CAA, while stroke specialists often know more about CAA.

• If you or a loved one suddenly experience any of the common signs of stroke, call 911 or go to the nearest emergency room:

  Face drooping
  Arm weakness
  Speech difficulty
  Time to call 911
Want to learn more about CAA?

Here are a few great resources:

• Cerebral Amyloid Angiopathy Research Lab
  http://angiopathy.org/

• International CAA Association
  http://internationalcaaaassociation.org/