

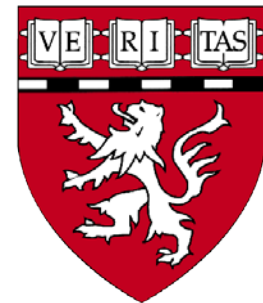
# CEREBRAL AMYLOID ANGIOPATHY (CAA)



**Massachusetts General Hospital**



**Early Detection of Angiopathy Network**



**Harvard Medical School**

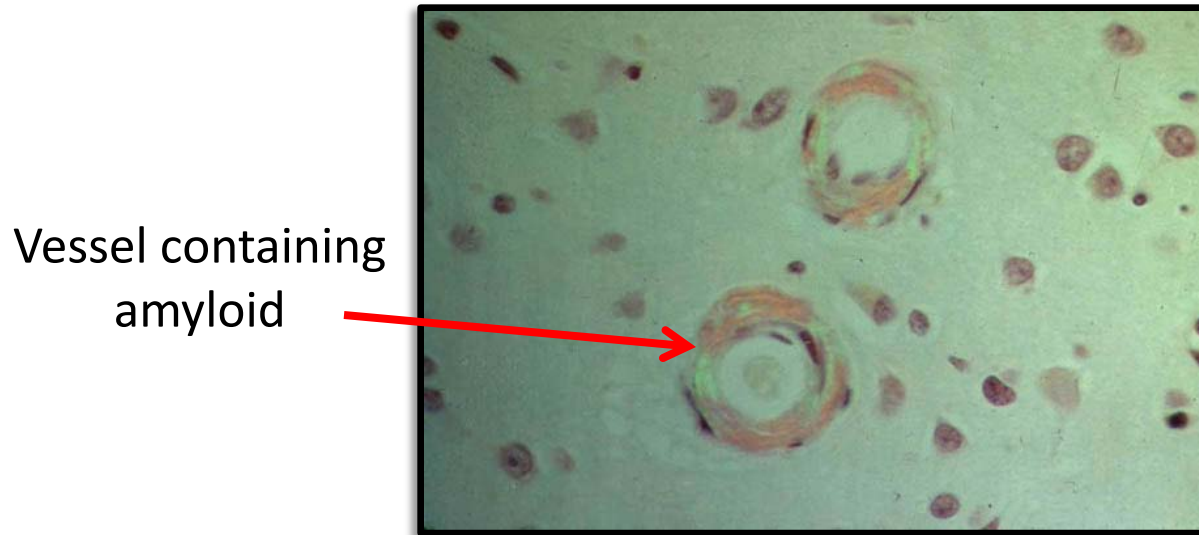
# What is CAA?

- ✓ **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.

# 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:

**F**ace drooping

**A**rm weakness

**S**peech difficulty

**T**ime 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://internationalcaaassociation.org/>