**Diabetes and Brain Function**

**TYPE 2 DIABETES REDUCES BRAIN FUNCTION:** How does this happen?

A study conducted over a 2-year period revealed that:

- Thinking and memory tests in patients with Type 2 Diabetes dropped 12%.
- Blood flow regulation dropped 65%.
- 50% decline in vasoreactivity: ability of blood vessels to contract/relax based on stimuli. (DiSalvo)

**Type 2 Diabetes causes a reduction in the brain’s cognitive ability; this is mainly due to inflammation and blood restriction to the brain.** (Azizah)

As diabetes develops, the Hippocampus becomes damaged and ultimately effects other components of the brain.

The Hippocampus is our center for emotion, memory, and Autonomic Nervous System. Picture from “The Final Frontier...”

Vascular and Alzheimer's dementia are more common in patients with type 2 diabetes

- **Vascular Dementia:** due to impaired supply of blood to the brain, such as may be caused by a series of small strokes.

Those with Type 2 Diabetes normally have higher levels of LDL Cholesterol (“bad cholesterol”). This can cause a narrowing of the arteries, which often leads to a stroke. (Tim)

**Structural changes identified in diabetes**

- Hippocampal injury
- Reduction in Gray Matter Density
- Atrophy
- Changes in White Matter Microstructure
- Neurocognitive dysfunction

**Searching for vascular dementia**

Arrows show blocked blood vessels in a patient with Vascular Dementia. Photo from Duke University.