Untangling the Mysteries of Alzheimer's Disease

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(PhysOrg.com) -- Lary Walker, associate professor of neuroscience, discusses the most common cause of dementia -- Alzheimer's disease -- and a promising diagnostic tool to detect it. Walker also explains what happens to the brain when someone gets this disease, and why Alzheimer's is exclusive to humans.

When our bodies make a protein, the protein tends to fold into a functional form. But when it comes to Alzheimer's disease, some proteins misfold, becoming sticky and then combining with one another. In their collective form, the proteins can then form plaques or tangles, the two types of lesions associated with Alzheimer's disease.

And for some unknown reason, people who have plaques usually go on to form tangles. But people who have tangles don't always go on to form plaques. No one is sure why. But that's what researcher Lary Walker wants to find out. Walker is an associate professor at Yerkes National Primate Research Center.

What complicates matters further is that patients with Alzheimer's may have co-existing neurodegenerative diseases or conditions, such as vascular disease in the brain. "There's pretty good evidence that vascular disorders will exacerbate dementia," says Walker. "So, someone who has both the lesions of Alzheimer's disease and problems with blood vessels in the brain is more likely to become demented early and faster than someone who just has the lesions of Alzheimer's disease."