Early Detection of and Treatment for Neurodegenerative Disease

A novel diagnostic test and therapeutic approach for neurodegenerative diseases, such as Alzheimer's disease.

Technology
Researchers at the University of Rochester have made a breakthrough discovery of the *glymphatic pathway* by which the brain clears its interstitial waste – a pathway resembling the discrete lymphatic system present in other peripheral tissues. This invention offers a new paradigm for early and accurate detection of Alzheimer’s disease. Therapeutic intervention of this pathway will eventually help to find the long-sought cure for this disease.

The researchers have demonstrated that in live animal models, the glymphatic system supports the clearance of Amyloid β, the main component of deposits found in the brains of patients with Alzheimer's disease. The potential use of this invention to accurately diagnose AD patients was demonstrated by successfully employing a clinically relevant imaging technology contrast-enhanced MRI to evaluate the efficiency of the glymphatic clearance. Additionally, the researchers have been exploiting this system in identifying therapeutics to accelerating the glymphatic clearance and thereby reversing the disease progression.

Publications

