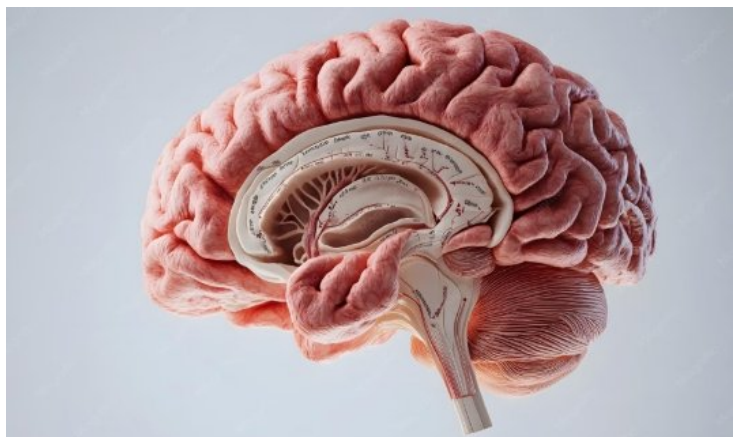


Researchers in Taiwan call for better drug delivery strategies for ageing brain

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A drug-delivery system that works well in a young brain may not work in the same way in an older brain



Researchers from Birla Institute of Technology and Science, Pilani (BITS Pilani), India and institutions in Taiwan have contributed to a multi-institutional review that highlights an important challenge in treating brain diseases. Getting a medicine past the blood-brain barrier is not enough to ensure that it reaches the right place and works effectively in an ageing brain.

The review explains how the ageing brain changes over time, affecting blood flow, the movement of fluids, waste removal, and immune activity. These changes can influence how tiny drug-carrying particles, known as nanoparticles, move through the brain, where they stay, and how effectively they release medicines.

The review was undertaken by Ruei-Dun Teng, Jui-Ming Sun, Ting-Lin Yen, Cheng-Ta Hsieh, and Chih-Hao Yang from Taipei Medical University and affiliated institutions in Taiwan, with Dr Rajeev Taliyan, Neuropsychopharmacology Division, Department of Pharmacy, BITS Pilani, India, as a collaborating author.

The review calls for a change in how brain-targeted medicines are developed. Instead of focusing only on whether a medicine can cross the blood-brain barrier, researchers should also understand what happens to it after it enters the brain. This approach could help in developing safer and more effective treatments for age-related brain conditions, including Alzheimer's and Parkinson's diseases.