

New treatments in view for brain disease

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A study of forgetful flies has led scientists to possible new treatments for neurodegenerative diseases such as Alzheimer's, Huntington's and Parkinson's.

University of Pennsylvania professor Nancy Bonini has told a conference in Melbourne she has successfully recreated diseases like Alzheimer's, Huntington's and Parkinson's in flies by using genes associated with the diseases.

She said the study went one step further by then using a naturally occurring compound that switched on disease-fighting genes in the insects.

"We found that the drugs had a strong effect to minimise the characteristics of the disease," Prof Bonini told the Genetics Society of Australia annual conference.

She said derivatives of the compound used in the study had been developed into a drug for treatment of cancerous tumours and were currently in clinical trials.

Treatment drugs for neurodegenerative diseases as a result of her research were "at least ten years away", she said.

"These diseases are affecting more and more people, with very few treatments available," she said.

"This research is exciting in that it points a way to possible new treatments."

Alzheimer's, Huntington's and Parkinson's diseases affect the brain and the central nervous system.

Alzheimer's involves the parts of the brain that control thought, memory, and language, with nerve cells dying in these areas of the brain.

Huntington's disease is a fatal hereditary disease that destroys neurons in areas of the brain involved in emotions, intellect and movement.

Huntington's is characterised by uncontrollable jerking of the limbs, trunk, and face (chorea); progressive loss of mental abilities; and the development of psychiatric problems.

Parkinson's disease occurs when a group of cells in an area of the brain that produces a chemical called dopamine begins to malfunction and eventually die.

Dopamine is a neurotransmitter, or chemical messenger, that transports signals to the parts of the brain that control movement initiation and coordination.

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