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Screening hope for Parkinson's Disease



Parkinson's slowly renders patients immobile

Screening to identify people susceptible to Parkinson's Disease could be possible after scientists discovered 40% had a problem processing a drug.

Scientists say the discovery of a defective protein involved in the metabolising of the drug, could give them crucial knowledge to help to prevent Parkinson's and other neurological diseases.

It might eventually be possible to screen people for the protein when they are young, and develop medication to prevent anyone who is susceptible developing the disease, they say.

Researchers from the pharmacy department at King's College, London, spotted that four in 10 patients with Parkinson's or motor neurone disease could not metabolise carbocysteine, a drug commonly used in the treatment of bronchitis and glue ear.

Only 3% of healthy people have problems processing the drug.

Not being able to metabolise the drug is not in itself a problem, but because of the connection with the neurological diseases, they examined the enzyme was responsible for processing the drug - phenylalanine 4-monooxygenase (PAM).

“
It is estimated that 40% of all people with Parkinson's could be identified at an early stage
”

**Robert Meadowcroft,
Parkinson's Disease Society**

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Defective PAM has previously been linked to problems metabolising the amino acid phenylalanine, which comes from food.

This leads to the inherited condition called phenylketonuria, where the development of the nervous system is affected.

Switch

None of the patients seen by the King's team had the condition, indicating a different defect in PAM was responsible for Parkinson's and or motor neurone disease.

But the researchers stress that, since some of the patients could metabolise carbocysteine normally, the genetic defect was likely to be something that made people more susceptible to the conditions, rather than something which caused them.

Although it is not yet clear why a problem with the enzyme is linked to neurological problems, the researchers suggest it could be because PAM is unable to metabolise other chemicals, as well as phenylalanine.

If this proves to be the case, scientists may be able to design a drug to switch the enzyme on, which could offer some protection against these diseases.

Dr Glyn Steventon, from King's College, who worked on the study, said: "That is what clinicians are hoping for, but it is still a long way off."

Robert Meadowcroft, of the Parkinson's Disease Society, said it was generally thought that Parkinson's was a combination of genetic susceptibility and an environmental trigger.

He said Dr Stephenson's findings were encouraging.

Wait for drugs

"This research suggests one interesting avenue to explore although as Dr. Steventon stated, it clearly does not apply to all cases of Parkinson's.

"However, it is estimated that 40% of all people with Parkinson's could be identified at an early stage by the eventual successful development of this process."

He warned it could be some time before new drugs were developed for patients.

But he added: "This is exciting news which opens up many possibilities but more research is clearly required to follow up these interesting findings from Dr Steventon."

The findings were presented to the British Pharmaceutical Conference in Manchester.

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