Genetic discovery leads to potential new treatments for schizophrenia
- Cancer treatment could be used for schizophrenia -

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Leading schizophrenia researcher, Professor Cyndi Shannon Weickert, has discovered that a brain receptor that normally stimulates growth in adolescence is hampered in people with schizophrenia.

Recently published in Human Molecular Genetics the findings open up new opportunities for treatments for schizophrenia, commencing with a world first three year clinical drug trial next month.

Professor Shannon Weickert, Macquarie Group Foundation Chair of Schizophrenia Research, led the study, a result of a joint initiative of the Schizophrenia Research Institute, University of New South Wales, Prince of Wales Medical Research Institute, the Macquarie Group Foundation and NSW Health along with international collaborators at the National Institute of Health (USA).

Professor Shannon Weickert sees this as one of the most important papers in her career.

“We now know that this brain receptor doesn't work in the normal way for people with schizophrenia. With this drug trial we can begin to stimulate it and try and get the neurodevelopmental program back on track. For some patients we could see improvements in language and memory," she explains.

Researchers are recruiting 80 male and female patients with schizophrenia who will receive this new therapy in addition to their ongoing medication. For six weeks, patients will take a drug called raloxifene, a hormonal modulator that stimulates the oestrogen receptor in the brain. It does not affect oestrogen levels in other parts of the body. The aim is to learn how this hormonal modulator can influence thought processing in schizophrenia and determine whether it could be used as a novel therapeutic treatment for cognitive problems in patients.

This drug is already used for cancer and osteoporosis and this is the first time it will be used in males with schizophrenia and in patients with schizophrenia under 40 years of age.

About Schizophrenia
Schizophrenia is a developmental disease that affects young people, affecting one percent of the population. Abnormalities occur in the brain due to genetic and environmental risk factors.
About the Research
Schizophrenia usually occurs during adolescence. When puberty hits, the brain is asked to change by activating genes that may have been dormant during childhood. People with schizophrenia are more likely to have a different gene (ESR 1) that codes for the oestrogen receptor and less likely to be able to awaken the dormant genes during maturation. Brain proteins like the oestrogen receptor regulate the degree to which specific genes are expressed and can even switch genes on and off.

268 post mortem brains (176 males, 92 females), and the genetic profiles of members of 122 schizophrenia-affected families were used in the study. The novel findings suggest that ESR1 may be a ‘candidate gene’ for schizophrenia and the mechanism of this association may involve alternative gene processing and function.

Any patients with schizophrenia aged between 18 and 40 years and on a stable medication program who may be interested in participating in the hormonal modulator program should contact Kristy Dunlop at 02 9399 1142, email: k.dunlop@unsw.edu.au for more information.

*The Macquarie Group Foundation Chair of Schizophrenia Research is a joint initiative of the Schizophrenia Research Institute, University of New South Wales, Prince of Wales Medical Research Institute and the Macquarie Group Foundation. It is supported by NSW Health.

For further information or to request an interview with Professor Shannon Weickert, please contact Helen Connealy on 9295 8362