Spontaneous gene mutations linked to non-familial schizophrenia

MedWire News: Spontaneous gene mutations may play a role in the development of schizophrenia in people without a family history of the disorder, say researchers.

Family genetics are known to play a major role in the development of schizophrenia, but many people with the disorder do not have a family history of the condition, explain Maria Karayiorgou, from Columbia University in New York, USA, and colleagues.

As previous studies have suggested that spontaneous genetic mutations may be associated with 'sporadic' schizophrenia, the researchers studied the genetic make-up of 152 schizophrenia patients without a family history of the disorder and 159 people without schizophrenia and no family history of the condition.

The team also studied the genetic make-up of each participant's biological parents.

Analysis identified a significant number of spontaneous gene mutations in 15 of the participants with sporadic schizophrenia compared with just two of those without the mental health disorder.

This indicated that schizophrenia patients without a family history of the condition were eight times more likely to harbour spontaneous gene mutations than other participants.

In contrast, the researchers found that participants with sporadic schizophrenia were just 1.5 times more likely to have inherited gene mutations than those without the disorder.

"Our findings strongly suggest that rare, spontaneous mutations likely contribute to vulnerability in cases of schizophrenia from previously unaffected families," concluded Dr Karayiorgou.

Commenting on the findings, Dr Thomas Insel, director of the US National Institute of Mental Health, who was not involved in the study, said: "This line of research holds promise for improved treatments - and perhaps someday even prevention - of developmental brain disorders."

The research is published in the journal Nature Genetics.