Mental retardation cause detailed

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European and U.S. studies describe a recurrent cause of mental retardation resulting from the deletion of a big segment of DNA from chromosome 17.

The deletion is associated with a region of DNA that is commonly carried in an inverted orientation by a large portion of the human population.

The deletion arises recurrently and accounts for roughly 1 percent of cases of mental retardation among the populations screened in three studies.

It seems to be found preferentially among children of individuals who carry one particular form of the inversion, which is common among Europeans, researchers said. Individuals carrying the deletion also show characteristic facial, behavioral and other clinical features, which should aid clinicians in diagnosing similar cases.

One of the deleted genes, MAPT, has been previously implicated as having a causal role in neurodegenerative disorders such as Alzheimer's and Parkinson's diseases. Loss of that gene is therefore a prime candidate for explaining some of the characteristic features associated with mental retardation.

The research -- conducted at the University Medical Center in Nijmegen, The Netherlands; Britain's University of Cambridge; and the University of Washington in the United States -- appears in the journal

Nature Genetics.

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