Gene may further obsessions, compulsions - gene linked to obsessive-compulsive disorder - Brief Article

Bruce Bower

Obsessive-compulsive disorder (OCD) exudes deja vu. It's like equipping a person's life with a rerun function that impels him or her to think the same disturbing thoughts and to perform the same preventive rituals every day, for hours at a time. Fear of getting sick through bacterial exposure, for instance, sends some OCD sufferers repeatedly to the sink to scrub their hands and arms raw.

Scientists now find that a variant of a specific gene may contribute to the disorder, at least in men. This genetic alteration reduces the production of the enzyme catechol-O-methyltransferase, or COMT, which helps terminate the action of the neurotransmitters dopamine and norepinephrine, reports a research team headed by psychiatric geneticist Maria Karayiorgou of Rockefeller University in New York.

"This is the first linkage of this gene to a psychiatric disorder," Karayiorgou says. "It may be one of several 'susceptibility' genes that pose a risk for developing OCD."

She and her colleagues focused on the COMT gene because it has a known function and falls within a DNA segment that, when missing, is associated with symptoms of manic depression, schizophrenia, and OCD (SN: 1/4/97, p. 7).

The team collected DNA samples from 73 people diagnosed with OCD and 148 individuals who had not experienced any mental disorder. All participants were white adults, and each group contained approximately equal numbers of men and women.

The variation in the COMT gene's usual sequence, inherited from both parents, occurred in nearly half of the men suffering from OCD, the researchers report in the April 29 Proceedings of the National Academy of Sciences. In contrast, only 1 in 10 women with OCD displayed the same genetic trait, as did about one in six of the men and women who displayed good mental health.

Statistical analysis identified the COMT variant as a likely contributor to OCD in men. However, because some psychiatrically healthy volunteers have two copies of the same version of the gene, an inherited susceptibility to OCD must involve several genes, Karayiorgou asserts. As yet unknown environmental influences may prompt such genes to carry out functions that promote obsessions and compulsions, she suggests.

The precise biological mechanism by which the altered COMT gene influences OCD and the reason for its prominence among men are unclear, the Rockefeller scientist adds.

"This new study has located a promising [gene] variation, but I consider the evidence for its linkage to OCD to be flawed until genetic studies are conducted with families in which this condition occurs frequently," remarks psychiatrist James F. Leckman of Yale University School of Medicine.

In such a study, researchers would assess whether family members showing symptoms of OCD possess two copies of the COMT gene variant more often than members without symptoms.

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