Study Links Gene Variant in Men to Marital Discord

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Men are more likely to be devoted and loyal husbands when they lack a particular variant of a gene that influences brain activity, researchers announced yesterday -- the first time that science has shown a direct link between a man's genes and his aptitude for monogamy.

The finding is striking because it not only links the gene variant -- which is present in two of every five men -- with the risk of marital discord and divorce, but also appears to predict whether women involved with these men are likely to say their partners are emotionally close and available, or distant and disagreeable. The presence of the gene variant, or allele, also seems predictive of whether men get married or live with women without getting married.

"Men with two copies of the allele had twice the risk of experiencing marital dysfunction, with a threat of divorce during the last year, compared to men carrying one or no copies," said Hasse Walum, a behavioral geneticist at the Karolinska Institute in Stockholm who led the study. "Women married to men with one or two copies of the allele scored lower on average on how satisfied they were with the relationship compared to women married to men with no copies."

The scientists studied men because the hormone being examined is known to play a larger role in their brains than in women's brains.

The finding set off a debate about whether people should conduct genetic tests to find out whether potential mates are bad marriage prospects. Several independent scientists called the discovery remarkable and elegant but disagreed over whether such information ought to be used in making personal decisions about love and marriage.

Walum said that the presence of the allele increased the risk of conjugal discord, but that many other factors probably shape marital behavior. However, he and other scientists said the study is the latest piece of evidence to show that biology -- down to the level of individual genes -- can play a powerful role in shaping complex human behavior.

In other words, if a man's culture, religion and family background each have a seat at the conference table that determines his attitudes toward marital fidelity and monogamy, his genes might well sit at the head of the table.

"There are many ways this information can help a man and his wife when they marry," said Helen Fisher, a biological anthropologist at Rutgers University who studies romantic love. "Knowing there are biological weak links can help you overcome them."

A man who knows he has this allele, she added, might be able to use the knowledge to ignore tugs of restlessness he might feel in his marriage: "You can say, 'Oh, it is just my DNA, and I am going to ignore it.' "

The allele that Walum and a team of scientists studied in a sample of more than 1,000 heterosexual couples regulates the activity of a hormone in the brain known as vasopressin. It dictates how and where vasopressin receptors are situated in the brain. Effectively, said Larry J. Young, a psychiatrist who studies the genetics of social

behavior at Emory University, brain receptors act like locks, and vasopressin acts like a key. The key works only when there is a lock; in the absence of a receptor, vasopressin cannot act.

About 40 percent of men have one or two copies of the allele. Walum, a PhD student, said that men with two copies of the allele had a greater risk of marital discord than men with one copy, and that men with one copy of the allele were at more risk of such discord than men with no copies. The study asked men in married or long-term relationships whether they had experienced relationship crises in the past year that were of such intensity that they considered divorce or splitting. The scientists also asked the wives and partners of the men what it was like to live with them, examining levels of affection, cohesion, consensus and satisfaction.

About 15 percent of the men without the allele reported serious marital discord in the past year, compared with 34 percent of men with two copies of the allele. Wives and partners of the men with two copies of the allele reported lower levels of satisfaction, affection, cohesion and consensus in the relationship than women married to men who had one or no copies of the allele.

Definition: "Allele" is a variation of a gene. This variation is slightly different from the normal gene.
「Allele]は遺伝子の変化形です。普通の遺伝子と比べたら、この遺伝子はちょっと違います。

1. If a man has no copies of the allele (gene) for divorce, what is the chance of marital discord?

2. If a man has 2 copies of the allele for divorce, what is the chance for marital discord?