

Parkinson's may be linked to hard workers, straight arrows

By Carey Goldberg

GLOBE STAFF

They tend not to smoke, drink, or seek thrills. They work hard. They show up on time, keep their homes neat, and follow complex medical instructions to the letter.

Doctors have noticed for decades that their Parkinson's disease patients often seem to share certain personality traits.

Now, a growing body of research, including surveys of Parkinson's patients and laboratory studies in mice, suggests that the disease, which afflicts more than a half-million Americans and has no cure, really does tend to strike straight arrows.

The apparent link between Parkinson's and a certain personality raises the question of whether the disease begins years or even decades before the onset of symptoms such as tremors, slowness of movement, and rigidity. That possibility, a topic under discussion at this week's World Parkinson Congress in Washington, has gained currency, raising the prospect that if the disease can be detected earlier, perhaps someday it can be

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prevented.

If there is a Parkinson's type, it also implies that people with a shortfall of the brain chemical dopamine early in life may have certain personality characteristics, such as risk aversion. Those same people, as they age, may develop Parkinson's. So, complex traits that seem like integral parts of a person's identity might actually stem from the early effects of their disease.

"To my mind, this is the best example of a personality trait that has been associated with changes in a specific brain chemical," said Dr. Matthew Menza, a leading specialist on Parkinson's and personality. It is also, he said, "the classic case of 'when bad things happen to good people.'"

Though no one has followed people for decades to see whether those with a "Parkinson's personality" are more likely to develop Parkinson's, Menza says the "weight of the evidence" supports the idea of a link. His list of traits associated with the disease in-

clude industriousness, punctuality, orderliness, inflexibility, cautiousness, and lack of novelty-seeking." Other doctors mention drive, ambition, altruism, cleanliness, and a tendency toward obsession with details.

"Oh, my God, that's me," said Jean Burns, 54, a retired software trainer, when she heard Menza's list of qualities. She and her husband believe her Parkinson's began at least 15 years before she was diagnosed at 51, because she started to lose her sense of smell then and began walking without swinging her arms, both known as early signs of the disease.

To doctors, too, the profile is familiar. "The feeling in the trenches is that there's definitely a personality," said Dr. Jang-Ho Cha, a neurologist at the Massachusetts General Institute for Neurodegenerative Disease. Parkinson's patients are "music teachers or accountants or professors or bankers or lawyers."

Famous people with Parkinson's include Pope John Paul II, former US attorney general Janet Reno, and actor Michael J. Fox, who spoke to more than 2,000 doctors, researchers, and patients gathered at the conference this week.

Research suggests that Parkinson's patients are only half as likely to smoke as the general population and are much less likely than average to drink coffee. It could be that nicotine and caffeine hold little appeal for those with a Parkinson's personality or that cigarettes and lattes actually act as shields — the jury is still out.

Dr. Michael Schwarzschild, director of the Mass. General Institute's Molecular Neurobiology Lab, has found evidence in rodents that caffeine may be protective. His team worked with mice who had been engineered to have the equivalent of Parkinson's, who would normally be doomed to have too little dopamine as they

aged. But by mimicking some of the effects of caffeine in their brains, researchers were able to preserve the neurons. That suggests caffeine might actually be protective against Parkinson's, but is not proof.

Schwarzschild is currently working with mice that have a Parkinson's-like mutation. Researchers are watching these mice as they grow up and age, to see whether they are less prone to caffeine and nicotine addictions than mice without the mutation.

In recent work in humans, a study just published in the *Journal of Neurology, Neurosurgery and Psychiatry* found that 106 people with Parkinson's were likely to score lower on tests of risky, impulsive "sensation-seeking behavior," like smoking and drinking, than 106 people without the disease.

Such a study, testing people well after the disease is manifest, cannot answer whether coffee and cigarette addictions are protective early on, said lead author Andrew Evans. But "it would appear less likely that taking nicotine 'protects' against Parkinson's," he said in an e-mail.

Boost dopamine levels in normal rats, and they become much less timid, more eager to explore. Dopamine is also linked to feelings of pleasure and reward, the kind of buzz that can come from the thrill of gambling, say, or one drink too many. If that jolt of pleasure does not come, it is easy to imagine that many vices could lose their appeal.

In recent years, the theory that low dopamine could produce a Parkinson's personality has gained added credibility from a strange string of reports: Some Parkinson's patients, put on drugs to boost their dopamine levels, have suddenly found themselves succumbing to unfamiliar compulsions to gamble or spend or view pornography.

The dopamine explanation seems plausible, said Cha of Mass. General: "You're just replacing the

reward system, and if you just overdose it a little bit," the person develops an out-of-character addiction, triggered by sudden new, dopamine-fueled feelings of pleasure and reward.

A report in this month's *Archives of Neurology* found an apparent link between Parkinson's drugs and occasional cases of compulsive gambling. In the US Food and Drug Administration's gigantic database of more than 2 million reports of adverse effects from drugs, there were 67 reports of compulsive gambling, and 39 of those were linked with Mirapex, an anti-Parkinson's drug, according to the study. The five top drugs reported to trigger gambling all boost dopamine levels. When patients were taken off the drugs, the gambling tended to subside, the authors say.

To think that such simple ups and downs in brain chemistry "might explain an awful lot about some of our basic personality traits is amazing," said Menza, professor of psychiatry and neurology at the Robert Wood Johnson Medical School in New Jersey.

Parkinson's may begin, not only decades before the diagnosis, but even outside the brain, said J. William Langston, scientific director of The Parkinson's Institute in Sunnyvale, Calif. The disease may show up early in other parts of the nervous system, he said; one major study, published in *Neurology* in 2001, suggests that the biggest predictor of Parkinson's from decades earlier is whether people tend to be constipated. Midlife depression, too, is a major risk factor for Parkinson's that may also be a sign of the pre-disease state.

So what should you do if you fit the Parkinson's personality? Not worry, specialists say. Menza, co-author of the just-published "Psychiatric Issues in Parkinson's," points out that a 60-year-old has about a 1 percent risk of getting Parkinson's, and far more than 1 percent of young people could be said to fit the personality profile.

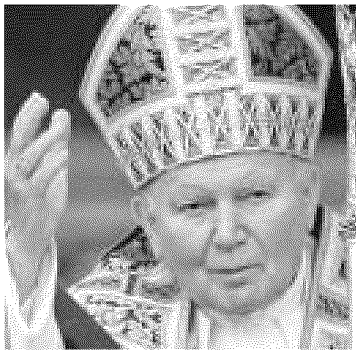
And they agree that there is not

enough evidence to take up new vices and start thrill-seeking.

“Maybe I should have smoked and drunk,” said Patti Lightner, 48, who has the disease and belongs to the Parkinson’s Action

Network. “But which do you want, Parkinson’s or lung cancer?”

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