



ASK DR. BOB . . .

with Dr. Bob Frank

PARKINSON'S DISEASE

I recently had an interesting conversation with an underwriter regarding the insurability of individuals with Parkinsonism. The underwriter had wondered about any differences in ratings that may be applied to two famous individuals with Parkinson's disease, actor Michael J. Fox and boxing champion Mohammed Ali? The conversation was especially of interest to me since I have always been a big fan of Mohammed Ali, ever since he broke onto the scene as the "Louisville Lip" and won an Olympic gold medal for boxing. It is sad to see someone who had so much verbal charisma be reduced to someone who can barely speak. Parkinson's disease is also not one specific disease, but rather a syndrome with multiple causes and various outcomes.

Parkinsonism is a clinical syndrome consisting of the classic triad of a resting tremor, rigidity of the muscles, and hypokinesia (decrease in overall movement). The tremor is usually unilateral and often of the upper extremities, and very often affects the fingers with the so-called "pill rolling" tremor. The rigidity manifests itself in stiffness of all the musculature, making it difficult to walk, to speak, and even to blink your eyes. The underlying cause is a degeneration of certain brain cells in the basal ganglia area of our brain that controls

motor movement. Dopamine is a chemical messenger in our brains, and when deficient in this area, it results in the above symptoms. Approximately 75% of cases are of unknown cause, and are usually referred to as Parkinson's disease. The remainder are caused by other types of diseases and are often referred to as Parkinson's syndrome. In these secondary cases of Parkinson's, known etiologies include certain drugs, especially the phenothiazine medications used for psychiatric conditions. It can be caused by head injuries, probably the cause for Mohammed Ali. It can result from encephalitis, and many cases were seen in the early 1900's after the worldwide pandemic of influenza. It can also accompany several rare neurodegenerative diseases of the brain, and can also be caused by various toxins, including manganese and carbon monoxide. Rarely, it can be caused by both genetic mutations and cerebrovascular disease.

The overall prevalence of Parkinsonism is approximately one person per thousand, but in age 65 and over, it is one in 100. The peak age of onset is between 50-55 years old and the incidence does increase with age.

The diagnosis is based upon having two of the three classic symptoms as well as a favorable response to dopamine therapy. At times a diagnosis can be difficult to make. There are a wide variety of other symptoms including masked facies, postural instability causing individuals to fall forward, decreased arm swing, difficulty in handwriting with small writing, sleep disturbance, depression (developing in greater than 50% of individuals as the disease progresses), various personality changes, and eventually 30% of individuals develop some degree of dementia.

Prior to the development of treatment, it was a slowly progressive and fatal disease. A study in 1967 showed life expectancy from the time of diagnosis to death averaged ten years. There are now a wide variety of medications to treat the disease, and the proper use of these will delay progression of the disease and

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increase overall survival. The initial medication developed was that of L-dopa, which attempted to replace the lack of dopamine in the brain. Initially thought to be a miracle drug, it was later found that individuals become resistant to the medication and it also has troublesome side effects. Currently, treatment for Parkinson's includes a stepwise approach. The first step is to use dopamine agonists (medicines that increase the effectiveness of natural dopamine in the brain) including bromocriptine, mirapex, permax, and requip. These medicines are all good at controlling the motor symptoms. As the disease progresses, the second step of treatment is to add L-dopa. As the effectiveness of L-dopa wears off, a third step is to try medications such as sergiline or tasmar. Despite the effectiveness of these medications, eventually the disease will progress. There has been a great deal of interest in the non-drug treatment of Parkinson's. Several famous individuals, including Michael J. Fox and Mohammed Ali, have tried such treatments. This includes surgery on a certain area of the brain, a pallidotomy, which can help the major motor symptoms. Still experimental is the implantation of dopamine producing tissue within the brain, such as placental tissue. The most recent surgery is direct brain stimulation with implantable electrodes, and currently this is felt to help be the most effective of the three surgeries.

As far as the clinical outcome of Parkinson's, it is still a slowly progressive disease, even with the benefit of

the various treatments that have been tried. As noted before, life expectancy in the past was as short as ten years. Life expectancy can now be prolonged for at least 15-20 years. Every person is different, and underwriting requires careful individual consideration. The best marker of where someone will be in five years is to look at how far they have progressed in the previous five-year span of time. If dementia is present, this is a rather poor prognostic sign. An underwriter must determine if it is primary Parkinson's disease or a secondary manifestation of another disease. It is also important to determine if the diagnosis is definitive, since many older individuals may have a tremor but don't have Parkinson's disease. Also, what is the age of onset? What has been their response to treatment, and where are they in the step-wise treatment process? Lastly, of paramount importance is the severity of the problem at the time of underwriting and what has been their rate of progression over the recent past. Taking this into consideration, individuals can be judged to have either mild, moderate, or severe disease. Based upon the age of the applicant, this could translate anywhere from a mild rating to decline.

So you can see the underwriting of Parkinsonism requires a great deal of knowledge and review of adequate records. In most cases, an offer can be made. I would be happy to answer any questions regarding Parkinsonism or any other disease that you may have questions about.