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Role of Community Pharmacist Care and Management of Parkinsonism Disease

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Abstract

The community pharmacist, being an important member of the healthcare team and society can make successful efforts to counsel the suffer and guide him about this disease. Pharmacist is now becoming more patient oriented than product oriented and have brought many changes in life of patients. Parkinson's disease is a movement disorder caused by a shortage of a chemical (dopamine) in the brain. Parkinson's disease is a neurodegenerative disorder that is chronic and progressive, affecting that part of the brain that controls the movement of muscles. The most common form of parkinsonism is Idiopathic Parkinson's disease, which is termed thus since the cause is not known, whereas the cause is either known or at least suspected in the other forms of Parkinson's disease, such as Postencephalitic Parkinsonism, Drug-Induced Parkinsonism, Striatonigral Degeneration, Toxin-Induced Parkinsonism, Arteriosclerotic However, with modern advances in medicine, Parkinson's disease can be treated quite effectively, compared to other serious neurological diseases. Basically, Parkinson's disease symptoms are caused due to the degeneration of brain cells that produce dopamine, particularly in the locus ceruleans and the substantia nigra. The role of community pharmacist needs to be realized not only for the healthcare system to perform better but also for the development of pharmacy profession.

Key words: Dopamine, neurotransmitter, pharmacist.

Introduction

Parkinson's disease is caused by the loss of brain cells that produce a chemical called dopamine, resulting in low levels of the chemical in your brain. Dopamine is a chemical messenger, or neurotransmitter, which makes other parts of your brain that coordinate movement work properly. The level of dopamine in your brain is linked with the levels of other chemicals, including one called acetylcholine. Low levels of dopamine and changes in other chemicals, including acetylcholine, cause the symptoms of Parkinson's disease. Parkinson's disease affects around one to two out of 100 people over 65. It's slightly more common in men than in women. Most people develop the condition at around the age of 65, but around one in 12 people with Parkinson's disease start having symptoms before the age of 40Parkinson's disease belongs to a group of conditions called motor system disorders, which are the result of the loss of dopamine-producing brain cells. The four primary symptoms of PD are tremor, or trembling in hands, arms, legs, jaw, and face; rigidity, or stiffness of the limbs and trunk; bradykinesia, or slowness of movement; and postural instability, or impaired balance and coordination. As these symptoms become more pronounced, patients may have difficulty walking, talking, or completing other simple tasks. PD usually affects people over the age of 50. Early symptoms of PD are subtle and occur gradually. In some people the disease progresses more quickly than in others. As the disease progresses, the shaking, or tremor, which affects the majority of PD patients may begin to interfere with daily activities. Other symptoms may include depression and other emotional changes; difficulty in swallowing, chewing, and speaking; urinary problems or constipation; skin problems; and sleep disruptions. There are currently no blood or laboratory tests that have been proven to help in diagnosing sporadic Parkinson's disease. Therefore the diagnosis is based on medical history and a neurological examination. The disease can be difficult to diagnose accurately. Doctors may sometimes request brain scans or laboratory tests in order to rule out other diseases. At present, there is no cure for Parkinson's disease, but a variety of medications provide dramatic relief from the symptoms. Usually, patients are given levodopa combined with carbidopa. Carbidopa delays the conversion of levodopa into dopamine until it reaches the brain. Nerve cells can use levodopa to make dopamine and replenish the brain's dwindling supply. Although levodopa helps at least three-quarters of parkinsonian cases, not all symptoms respond equally to the drug. Bradykinesia and rigidity respond best, while tremor may be only marginally reduced. Problems with balance and other symptoms may not be alleviated at all. Anticholinergics may help control tremor and rigidity. Other drugs, such as bromocriptine, pramipexole, and ropinirole, mimic the role of dopamine in the brain, causing the neurons to react as they would to dopamine. An antiviral drug, amantadine, also appears to reduce symptoms. In May 2006, the FDA approved rasagiline to be used along with levodopa for patients with advanced Parkinson's disease or as a single-drug treatment for early Parkinson's disease. In some cases, surgery may be appropriate if the disease doesn't respond to drugs. A therapy called deep brain stimulation (DBS) has now been approved by the U.S. Food and Drug Administration. In DBS, electrodes are implanted into the brain and connected to a small electrical device called a pulse generator that can be externally programmed. DBS can reduce the need for levodopa and related drugs, which in turn decreases the involuntary movements called dyskinesias that are a common side effect of levodopa. It also helps to alleviate fluctuations of symptoms and to reduce tremors, slowness of movements, and gait problems. DBS requires careful programming of the stimulator device in order to work correctly. Scientists looking for the cause of Parkinson's disease continue to search for possible environmental factors, such as

toxins, that may trigger the disorder, and study genetic factors to determine how defective genes play a role. Other scientists are working to develop new protective drugs that can delay, prevent, or reverse the disease.

Role of Pharmacist

Pharmacist plays an important role in patient healthcare. Clinical pharmacists posses in-depth knowledge of new knowledge of medications that is integrated with a fundamental understanding of the biomedical, pharmaceutical, sociobiohavioral and clinical sciences, he also assumes the responsibility and accountability for managing medication therapy in direct Parkinson's patient care setting whether practicing independently or in consultation with other health care, due to free accessibility and friendly approach, pharmacists are placed at first point of contact. The practice of clinical pharmacy embraces the philosophy of pharmaceutical care as a discipline; clinical pharmacy also has an obligation to contribute to the generation of new knowledge that advances health and quality of life. Pharmacists are uniquely positioned and most easily accessible healthcare professionals in the community. Even in developing countries like India, most of the people communicate and take treatment advice on minor ailments from pharmacist only! Among all Healthcare Professionals, pharmacist is the one who have wide compass and can communicate with people most effectively. Community pharmacist is only healthcare professional who will interact with several individuals each day and this is major platform to communicate with common individuals. In India large number of patient pool goes directly to pharmacies and depends on pharmacist to tell them what medicines to take. Major role of community pharmacist is to educate consumers on preventive measures and disseminate concise and up-to-date information to the public.

MEDICATIONS OF PARKINSON'S DISEASE

Although there are general guidelines that doctors use to choose a treatment regimen, each person with PD must be individually evaluated to determine which drug or combination of drugs is best for them. For some, a “first choice” drug might be one of the levodopa preparations, and for others, an initial prescription may be given for one of the agonists, an MAO inhibitor or an anticholinergic.The choice of drug treatment depends on many variables including symptom presentation, other concurrent health issues (and the medications being used to treat them) and a person’s age. And while the suggested starting dosages (as indicated by the package insert) are listed here, remember that they too can vary greatly depending on a person’s needs and metabolism.

- Carbidopa/Levodopa therapy
- Dopamine Agonists
- Anticholinergics
- MAO-B Inhibitors
- COMT Inhibitors
- Other medications

Conclusion

Parkinson's disease may progress quickly or gradually over years. Many patients become profoundly disabled and others continue to function relatively well. Symptoms of Parkinson's

can vary from day to day or even moment to moment. There often is no clear reason for this fluctuation of symptoms; however, it may be attributable to disease process or to antiparkinson medications. Problems with sleep, mood, and thought also are common in people who have Parkinson's disease. Problems falling asleep or staying asleep (insomnia) can result from anxiety, depression, or physical restlessness. People with Parkinson's disease may not be able to sleep well because they cannot easily turn over or change position in bed. A person with Parkinson's disease may slowly become more dependent, fearful, indecisive, and passive. The person may talk less often than he or she used to, withdraw from family and friends, and remain inactive unless encouraged to move about. Depression is very common in people with this disease and can be caused by chemical changes in the brain or can be a reaction to having a disabling disease. Depression often improves with proper treatment. Up to one-third of people with Parkinson's disease may develop dementia and confusion, similar to Alzheimer's disease, late in the course of the disease. Depression can further contribute to memory loss and confusion. Memory loss, hallucinations (seeing or hearing things that aren't really there), and vivid dreams may sometimes be caused by drugs taken to treat Parkinson's disease. Clinical pharmacists are health care provider which provides patient care that optimizes medication therapy & promotes health, wellness & disease prevention.

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