

ABSTRACT Young onset Parkinson's disease is a rare central nervous system disorder which affects by an age of onset between 21–45 years. Young onset Parkinson's disease is characterized by motor symptoms and non-motor symptoms. Motor symptoms such as postural instability, tremor, rigidity, bradykinesia and non-motor symptoms such as psychosis, confusion, and hallucinations. We report a case on 28 year old female with young onset Parkinson's Disease and treated with pharmacological management and adjuvant therapies. Keywords: Anticholinergics, Bradykinesia, YOPD

INTRODUCTION Young onset Parkinson's disease (YOPD) is a subtype of Parkinson's disease that develops between 21 and 45 years of age, with specific symptoms, genetic correlation, and treatment strategies. The genetic factors play a larger role in young onset Parkinson's Disease, and researchers have found certain genetic mutations like PRKN, SNCA, Parkin (Park2), PINK1 (Park6), LRRK2 are involved[1] . Positive Parkinson's disease below 21 years of age is referred to as juvenile Parkinson's disease. Young onset Parkinson's disease is characterized by motor symptoms and nonmotor symptoms. Motor symptoms such as postural instability, tremor, rigidity, bradykinesia and non-motor symptoms such as psychosis, confusion, and hallucinations can be present as the early indication of the disorder. Multiple outsourcing of bradykinesia such as micrographia, mobility problems, decreased facial expression, decreased blinking rate, drooling, difficulty in rising from a low level are present. Dystonia, hyperreflexia, irregular behavior and/or clinical symptoms are common characteristics of young-onset 'classical' parkinsonism.[2] The diagnosis of YOPD is based on the judgment of clinical symptoms. The recently US Food and Drug Administration (FDA)–approved DaTSCAN is being questioned for its accuracy and overall contribution to the diagnosis of Parkinson disease[3,4] . It has been shown that the overall accuracy of clinical diagnosis is 84% in early Parkinson's disease and 98% at later stages of Parkinson disease. There is a complex treatment decision on the treatment of young onset Parkinson's disease due to functional disability, severity of the disease .The most effective treatment for Parkinson disease is levodopa due to its effective treatment in decreasing bradykinesia and rigidity. Alternative treatment options to start therapy in Young onset Parkinson disease are Dopamine agonists, inhibitors of monoamine oxidase B (selegiline hydrochloride, or rasagiline mesilate), amantadine hydrochloride, or where tremor is a particular problem, anticholinergics, surgery like Deep Brain Stimulation (DBS)[5] and novel therapies like cell based therapy and immunotherapy, gene therapy. All of these drugs can be used alone or in combination with levodopa to successfully treat Parkinson's disease. Physical and occupational therapy in YOPD patients should be used with pharmacological treatment and may assist in Jashlyn Lijo.J et.al. Case report on young onset Parkinson's disease. International Journal of Research and Review (ijrrjournal.com) 325 Vol.7; Issue: 11; November 2020 the rehabilitation process. Initiating an early exercise program of Parkinson's disease will be benefit for the secondary motor problems involving arm swing, gait, and posture. Exercise has been shown to improve physical function, health-related quality of life, leg strength, balance, and gait speed in Parkinson's disease, and is possibly mediated through increased calcium/CaMdependent dopamine synthesis in the remaining dopaminergic nigrostriatal cells [3] . YOPD patients with speech difficulties might benefit from intensive voice therapy to maintain employment and social activity. We report a case with young onset Parkinson's disease that has been successfully treated with proper counselling, levodopa and anticholinergics. **CASE PRESENTATION A**

28 year old female admitted in the tertiary care hospital with the complaints of drooling of saliva, difficulty in walking and eating, tremor, slurry speech and her upper and lower limb has paralysed for past one week. On the examination of her past medical history she had two episodes of seizure before two years her social habits were normal. On her physical examination she was conscious and was not dyspneic at rest. Her vitals and her systemic examinations were normal. On analysing motor functions reflex and tone was normal at right and exaggerated at left and Babinski was extensor in right and left. On laboratory investigations haemoglobin was decreased 11.1g/dl, Platelet Distribution width was 15%, renal profile BUN was increased 19 mg/dl, thyroid profile TSH 6.66mIU/L. hypodensity in the left medial occipital lobe was found in CT and her ECG report shows sinus tachycardia with short PR interval. She was diagnosed as young onset Parkinson's disease with hypothyroidism. The pharmacological treatment in hospital was T.carbidopa 10 mg and T levodopa 100mg, T folic acid 5 mg, T.propamolol 10 mg, T.trihexyphenidyl 2mg, T.pantoprazole 40 mg, T.clonazepam 0.5 mg, T bepotastine 10 mg, T.levothyroxine sodium 25 mcg and the non pharmacological treatment is to do physiotherapy. Patient felt symptomatically better and was discharged on the seventh day of her admission.

DISCUSSION

Young onset Parkinson disease is a subtype of Parkinson's disease that affects the age between 21–45 years and is difficult to diagnose at early stages. Differentiating Parkinson's disease from other forms of Parkinsonism is difficult as its symptoms are usually confused. The full range of cardinal symptoms of Parkinson disease such as bradykinesia, tremor, rigidity and postural instability helps to diagnose the disease. Treatment options to start the therapy of YOPD are dopamine agonists, monoamine oxidase inhibitors, amantadine hydrochloride, anticholinergics was described by Natasa Klepac, an update on the management of young onset Parkinson's disease. All these drugs can be used alone or in the combination of levodopa and dopamine precursor. [3] Using levodopa and anticholinergics trihexyphenidyl shows a positive result for this patient were it is associated with a decreased risk of developing motor complications and neuroprotective effect described by Ubaldo Bonuccelli in Role of Dopamine Receptor Agonists in the Treatment of Early Parkinson's Disease.[6] The patient was discharged on the seventh day as she was symptomatically felt better. Clinical Pharmacist plays a great role in young onset Parkinson disease because parkinsons disease is slow and chronic course, pharmacists should see these patients or their caregivers frequently. Healthcare professionals involved in the pharmacotherapy management and distribution spectrum of Parkinson's disease should be concerned about the overall safety of the medications, the safety of polypharmacy regimens, drug interactions, and education of the patient and family about benefits and risks of the medication regimen. Pharmacists, in particular, are traditionally more focused on drug safety Jashlyn Lijo.J et.al. Case report on young onset Parkinson's disease. International Journal of Research and Review (ijrrjournal.com) 326 Vol.7; Issue: 11; November 2020 and interactions as well as on providing instructions on proper use of medications.

CONCLUSION

Young onset Parkinson's disease (YOPD) is a subtype of Parkinson's disease that develops between 21 and 45 years of age. Pharmacological treatment and adjuvant therapies play a major role in the treatment for young onset Parkinson disease. Clinical pharmacist plays an important role in monitoring the safety of patients' medication, drug interactions and proper use of medications to decrease the further complications of the neurodegenerative disorder.

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