Persistent monoarthritis on the patient of parkinson’s disease with cognitive impairment and frequent falls

Abstract
Parkinson’s disease (PD) is often associated with cognitive impairment and frequent falls. Although the cause of frequent falls is not clearly understood, cognitive impairment is thought to be one of the main symptoms of the disease. Walking speed is reduced in PD patients and this is accompanied by a decrease in arm swing. In addition, there is an increase in cadence, double support, and left-right gait asymmetry and there is a decrease in bilateral coordination. Gait disorders and postural instability increase the risk of falls in PD, which causes severe head trauma, fractures and mortality. In addition, levodopa-induced dyskinesia, symptomatic orthostatic hypotension, sudden loss of postural reflexes, coexisting neurological or other medical disorders, and environmental factors are the other risk factors for falls in PD.

Introduction
Parkinson’s disease is often associated with cognitive impairment and frequent falls. Postural control is severely reduced in PD and postural instability is thought to be one of the main symptoms of the disease. Walking speed is reduced in PD patients and this is accompanied by a decrease in arm swing. In addition, there is an increase in cadence, double support, and left-right gait asymmetry and there is a decrease in bilateral coordination. Gait disorders and postural instability increase the risk of falls in PD, which causes severe head trauma, fractures and mortality.

Case report
A 61-year-old female patient with PD who suffered from severe pain, limitation, swelling, temperature increase and erythema of right knee also difficulty of gait. In the result of all the detailed evaluations made, conservative treatment-resistant traumatic monoarthritis and osteonecrosis were diagnosed due to recurrent falls of the patient and the patient was directed to surgical treatment. The patient’s falls were ongoing due to cognitive impairment and PD and she continued to suffer from pain and swelling despite performing unicompartimental (lateral compartment) knee arthroplasty. As a result of consultations with orthopaedists we decided to perform a total knee arthroplasty on the patient. After surgery, the patient was admitted to our rehabilitation clinic for orthopedic and PD rehabilitation program. During the rehabilitation program, the symptoms of swelling and pain in the patient’s knee improved and the frequency of falls decreased. The patient’s rehabilitation program still continues in our clinic.

PD might improve by effective surgical treatment and rehabilitation programme when they do not respond to conservative treatment.
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Widespread subchondral hypointense signal changes in the T1 weighted images. The edematous signal in the lateral condyle of the femur was present. In addition, intra-articular and suprapatellar bursal fluid increase, patellar grade 1 chondromalasic changes, grade 3 tears in the lateral meniscus anterior horn and grade 2 degenerations in the lateral-medial meniscus posterior horns were observed in the images. Widespread hypodensities were observed in the lateral condyle of the femur in the knee Computer Tomography (CT) performed 50 days after the MRI examination. The patient’s bilateral knee X-ray showed no significant pathology. Conclusion according to the FICAT classification grade 2 osteonecrosis was accepted. The cognitive performance of the patient was examined with the Mini-Mental Test and the Montreal Cognitive Assessment Test and the scores were 25 and 17 respectively. Non-steroidal anti-inflammatory Drugs, steroids, analgesics and other conservative treatments such as physical therapy methods (Transcutaneous electrical nerve stimulation, cold pack) and exercises (Range of motion exercises, isometric and active assistive strengthening exercises, gentle stretching exercises, hip and ankle strengthening exercises etc.) were administered but there was no improvement in symptoms. Because the patient did not respond to conservative treatment, she was referred to the orthopedic clinic and decided to perform lateral compartment arthroplasty. After the operation, the patient was re-admitted to our clinic to start the physical therapy and rehabilitation program. The patient’s falls were ongoing due to cognitive impairment and PD and she continued to suffer from pain and swelling despite performing unicompartmental knee arthroplasty. As a result of consultations with orthopaedists, we decided to perform a total knee arthroplasty on the patient. After surgery, the patient was admitted to our rehabilitation clinic again and was scheduled for a total knee arthroplasty and PD rehabilitation program. During the rehabilitation program, significant improvement was detected in the joint range of motion, swelling and pain and the frequency of falls decreased. The loss of extension was improved from -30 degrees to 0, and flexion-60 degrees to -40, VAS was reduced from 10 to 3, and fall frequency was reduced from 5-6 times a day to 1-2 times a week. The patient’s rehabilitation program still continues in our clinic. During the rehabilitation program, significant improvement was detected in the joint range of motion, swelling and pain and the frequency of falls decreased. The loss of extension was improved from -30 degrees to 0, and flexion-60 degrees to -40, VAS was reduced from 10 to 3, and fall frequency was reduced from 5-6 times a day to 1-2 times a week. The patient’s rehabilitation program still continues in our clinic. The patient’s rehabilitation program still continues in our clinic (Figure 1) (Figure 2).

**Conclusion**

Joint replacement surgery is an effective method in PD patients with conservative treatment-resistant chronic monoarthritis due to recurrent falls. Symptoms of patients improve after successful arthroplasty, resulting in decreased falls and increased effectiveness of rehabilitation programmes.

**References**


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