

Closed Non-Displaced Transverse Patellar Fracture in a Recreational 64 Y.O Female Hiker: Physiological Changes of Aging and Comorbidities such as Osteoporosis, and Chronic Lung Disease that Limit Recovery Process of a Patient.

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Abstract

Fractures in elder individual results in increased mortality, impaired quality of life and persistent physical morbidity. Osteoporosis, and Chronic Lung Disease are reported to be the commonest diseases that affect fracture healing in elderly patients. Recent epidemiological studies have revealed that osteoporosis is closely associated with common chronic diseases including diabetes, hypertension, chronic kidney disorders and chronic obstructive pulmonary disease (COPD). Osteoporosis is extremely common in COPD patients, which have significant impacts on their quality of life, activities of daily life, and respiratory function. In this case study we are reviewing how an older adult made an extraordinary recovery after a patellar fracture due to not presenting any type of morbidity or disease and by maintaining a healthy routine throughout her life. We also review how changes of aging and comorbidities such as Osteoporosis and COPD can affect all bones in the body and how these diseases contribute to increase risk of fractures and recovery failure after a broken bone.

Background

68-year-old female recreational hiker with no prior medical injuries reported for evaluation. Athlete reported suffering from a knee fracture while hiking on an uneven, rocky surface on vacation. Fracture did not require surgery.

Differential Diagnosis

- Knee dislocation.
- Knee Exostosis.
- Tibia and fibula fracture.

Treatment

Athlete's diagnosed with nondisplaced Transverse patellar fracture of left knee. Athlete was placed in a LE immobilizer non weight bearing status for two weeks followed by weight bearing as tolerated for four weeks. 6 weeks following the initial injury, subject attended physical therapy treatment where she was evaluated and treated by a Physical Therapist (PT) and an Athletic Training Student (ATS). Treatment goals included increasing ROM, improve function, increase mobility, increase coordination.

Evaluation

Mechanism of injury: anterior blunt trauma. Pain location: anterior patella and quadriceps muscle/tendon superior to patella and medial joint, intermittent, dull. Ascends and descends stairs with assistance and non-reciprocal gait. Ambulates independently for 100ft one crutch as needed. Ambulation endurance 10 minutes. Able to walk without pain and limp for 5-10 min. WBAT. Unable to squat fully, walk pain free, descend stairs, transfer with ease, and perform recreational activities. Swelling superior L knee and joint space. Positive for flexion pain at end range. Hypomobile patellar mobility. Limited superior and inferior patellar tracking. Muscle length test calf, hamstrings, quadriceps abnormal on Left LE. Sensation to light touch: intact. Limited AROM and PROM knee joint. Weak hip abductors, knee extensors and flexors on LLE. Suprapatellar, midpatellar and infrapatellar edema of the L knee. Subject diagnosis and impression at P.T evaluation was Left patellar fracture, gait disturbance, and mobility deficits.

Conclusion

A knee fracture decreases long-term quality of life just as much as chronic diseases such as diabetes or chronic lung disease. Acutely, her pain and shock of the injury did not precipitate delirium, complicating diagnosis and treatment or increasing the need for further medication and increasing the rate of long-term cognitive deficits. This is a non-traditional athlete that has a clear past medical history even though she is having the physiologic changes of aging, and who does not take any medications that implicate increase of risk fractures. This case highlights the factors an older adult needs to have to have a successful recovery after a knee fracture, and the importance of presenting an excellent health-nutrition condition, past medical history, and active-athletic levels, to continue being independent and active after a knee fracture

Uniqueness

Older adult, over 65 years of age, athletic-active, no predisposing conditions, proper body weight, who suffered a patellar fracture without requiring surgery. A fracture can be a devastating blow to an older adult's health and independence, decreasing functional status and quality of life permanently. This case was unique because of the successful recovery of an older adult that could go back to be independent, and increase functional status and quality of life after a patellar fracture. Older adults are suffering from physiological changes of aging and, most of them, from comorbidities that slow or limit recovery process after a knee fracture.

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