2nd World Physical Medicine and Rehabilitation Conference

June 13-14, 2019 Helsinki, Finland

Successful vestibular rehabilitation of a patient status post sickle cell anemia crisis with residual vestibulopathy: A case study

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Sickle cell anemia (SCA) can result in ischemic crises effecting the blood flow to the inner ear. Sensorineural hearing loss (SNHL), tinnitus, vertigo, and disequilibrium are common symptoms post-SCA crisis. The purpose of this case report is to demonstrate the efficacy of Vestibular Physical Therapy (VPT) on residual vestibulopathy post-SCA ischemic crisis. A 46-year-old female, presenting 2 months after SCA crisis, with disequilibrium, vertigo, unilateral SNHL, and tinnitus. Examination revealed first degree right beating nystagmus, positive left head impulse test, and robust right beating nystagmus post horizontal head shaking. Findings were consistent with unilateral left peripheral hypofunction. Her dynamic balance was also impaired based on: functional gait assessment (FGA) score of 10/30; impaired gait speed (0.80 m/s); impaired balance self-efficacy via Activities-Specific Balance Confidence Scale (ABC) score (15%), and a severe level of disability related to dizziness and instability (Dizziness Handicap Inventory (DHI): 64). Patient completed 9, 45 minute sessions of VPT. Interventions incorporated: gaze stability x1 and x2; habituation for symptom provoking motions; adaptation training; and dynamic balance. Patient improved: dynamic balance (FGA 10 to 25/30); self-reported disability (DHI 0-64); balance self-efficacy (ABC 15%-98%); and habitual gait speed (0.80 m/2 to 1.31m/s). Patient was able to return to work and all leisure activities without symptoms. SCA crisis can affect the blood supply to cranial nerve VIII causing a vestibular hypofunction to develop. Traditional VPT was shown to be an effective measure to address the deficits associated with residual hypofunction due to SCA crises.

Biography

Jolie Berke earned her Doctor of Physical Therapy degree from Northwestern University Feinberg School of Medicine in 2016. She is a physical therapist at NYU Langone Health Rusk Rehabilitation in New York, New York where she is currently treating patients with neurologic and vestibular disorders. She has successfully earned a certificate in vestibular physical therapy through the American Physical Therapy Association. She has presented posters at The International Society of Physical and Rehabilitation Medicine as well as at two separate Combined Section Meetings of the American Physical Therapy Association.