QUANTIFICATION OF EFFECTS OF LEVODOPA TREATMENT IN PARKINSONIAN SYNDROMES

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Abstract: The purpose of this chapter is to present the experience of the Posture and Motion Laboratory at the “San Raffaele Cassino” in the field of use of Gait Analysis (GA) in patients with Parkinson’s disease (PD) and with Progressive Supranuclear Palsy (PSP). In particular, the effects of levodopa medication on PD vs. PSP patients were quantified, comparing the OFF and ON state in the two different pathological conditions, using functional evaluation and GA. Data of the OFF and ON states in 10 PSP patients and 11 PD patients were compared. The results highlighted that the treatment based on Levodopa treatment had significant effects only on PD group (spatio-temporal parameters, kinematics and kinetics); PSP patients revealed no significant changes after the levodopa therapy.

Key words: Parkinson’s disease, PSP, Gait Analysis

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3. Conclusions

The experience of the Posture and Motion Laboratory at the “San Raffaele Cassino” is described in the field of the use of GA in patients with PD and PSP. Our results demonstrated that quantitative GA may represent a precise, objective and reliable alternative to rating scales and commonly used tests in determining the dopaminergic response in patients with PD and PSP which provides a systematic evaluation to help in the early differentiation of PSP from other parkinsonian syndromes, like PD. Further studies should be conducted on this direction, with larger group of patients and considering sub-groups of patients, evaluating for example PD patients with walking problems or with freezing, in order to evaluate quantitatively if different responses to levodopa are found.

4. References

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