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Longitudinal change of energy expenditure, body composition and dietary habits in progressive supranuclear palsy patients

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Introduction: Progressive Supranuclear Palsy (PSP) is a neurodegenerative disease associated with postural instability and oculomotor disturbances as well as akinesia and cognitive and behavioral changes [1].
Recently we described a reduction of total daily energy expenditure in PSP possibly linked to reduced physical activity level and fat free mass [2].

Objective: Aim of this study is to describe longitudinal changes of energy expenditure, body composition and dietary habits in PSP patients.

Methods: A total of 8 PSP patients were evalueted at baseline and after a mean of 8,75 months with indirect calorimeter, bio-impedance analysis and physical activity and dietary intake questionnaries. Disease severity was evaluated with the PSP-Rating Scale (PSP-rs).

Results: No change was detected in either weight or rest energy expenditure over time ($p>0,05$). Bio-impedance analysis showed no change in fat mass and fat free mass ($p>0,05$). Dietary habits showed only minor changes over time with a tendency towards a reduction of daily calorie intake (mean 2248,28 kcal/daily to 2054,42 kcal/daily) ($p=0,07$). Physical activity level decreased significantly ($p<0,05$). Similarly, PSP-rs significantly increased over time ($p<0,05$).

Conclusions: After a mean follow up of 8 months, energy expenditure and body composition remain stable in PSP patients. As opposite, physical activity level decreases significantly likley in relation to the increase in disease severity. Calorie intake remains overall stable but with a tendency towards a reduction. As the disease worsens, mobility of patients is progressively reduced. In this short-term follow up, such changes are not associated with significant modifications in energy expenditure and body composition, possibly also related to preserved dietary habits.

References

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