P91

Application of the mPSPRS to the Salerno cohort and a comparison between PSP-RS and vPSP

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Introduction: Recently, a new evaluation scale for progressive supranuclear palsy (PSP) has been proposed (modified PSP-rating scale - mPSPRS) [1]. In this version, some items from the PSPRS have been condensed or eliminated in order to focus on meaningful disease milestones.

Objective: To apply the mPSPRS to the Salerno PSP cohort and investigate its sensitivity to change in patients with Richardson syndrome (PSP-RS) and the other variants (vPSP).

Methods: PSP diagnosis and phenotype attribution were determined according with the Movement Disorder Society criteria [2-3]. The mPSPRS was computed for 36 patients (29 PSP-RS and 7 vPSP) and assessed at least twice (mean±standard deviation follow-up: 15.33±9.78 months). Power calculations were used to estimate the sample size required to detect 20% and 50% change from baseline in PSP-RS and vPSP for the mPSPRS and PSPRS.

Results: Our data confirm that for the whole PSP cohort the mPSPRS has a slight lower sensitivity compared to its original version to detect a 50% change over follow up. Sample sizes for power calculations in our cohort are in general smaller than those reported by Grötsch et al. [1], possibly due to the longer follow up (15 vs 12 months). When considering PSP phenotypes, the mPSPRS presented higher sensitivity for PSP-RS than vPSP. In keeping with the slower disease progression in vPSP, effect sizes are smaller, thus larger samples would be needed to detect significant changes over time [1].

Conclusions: Our data further support the use of the proposed mPSPRS in the clinical practice when considering all the disease phenotypes. However, we also highlight that more work needs to be done to improve sensitivity to change of rating scales and sample size calculations for vPSP. Given the heterogeneous forms of disease included in the vPSP category, a revision rather than a simple compression of the original PSPRS would be advisable.

References

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