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Decrease of Levodopa Equivalent Daily Dose in Parkinson Disease Patients Treated with Safinamide: a Three-Years' Retrospective Study

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Introduction: Safinamide is a reversible monoaminoxidase B inhibitor used in the treatment of motor and non-motor fluctuations in Parkinson's disease (PD). A previous retrospective study demonstrated a significant reduction of levodopa equivalent daily dose (LEDD) in patients treated with safinamide after one year of follow-u [1]. In this retrospective study, we aim to evaluate whether total LEDD reduction persists even after 3 years of follow-up and if there is a possible correlation with clinical phenotype.

Material and methods: Twenty-eight PD patients were evaluated at different time points: at the time of Safinamide prescription (T0), after one (T1), two (T2), and three years (T3). We collected data about clinical phenotype, disease duration, mean daily dose of LD, and LEDD of other PD drugs.

Results: We stratified the patients depending on clinical phenotype and disease duration (0-6 years or more than 7 years). The repeated-measures ANOVA showed in the akinetic-rigid group (9 patients) a significant constant decrease of the total LEDD in the following three years (T0-T1 p=0,003; T0-T2 p=0,013; T0-T3 p=0,040) with a mean decrease of 16% from baseline to T3. A slight though not significant LEDD increase was observed in patients with tremor dominant PD. Furthermore, the group with more than seven years of disease duration (15 patients) demonstrated a decreasing trend in total LEDD (-7% comparing T0 to T3) while in the other group (13 patients) we observed a growth in total LEDD (+8% comparing T0 to T3).

Conclusions: In conclusion, these results support the LD-sparing role of safinamide even 3 years after its introduction. To the best of our knowledge, our study also highlights for the first time that this benefit is more relevant in PD patients with an akinetic-rigid phenotype and longer disease duration.

References:

[1] Mancini F, Di Fonzo AB, Lazzeri G, Borellini L, Silani V, Lacerenza M, Comi C. Real life evaluation of safinamide effectiveness in Parkinson's disease. Neurol Sci. 2018 Apr;39(4):733-739. doi: 10.1007/s10072-018-3272-y. Epub 2018 Feb 13. PMID: 29441484.