

## The impact of dysphagia in Parkinson's disease patients treated with levodopa/carbidopa intestinal gel

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*Background:* Dysphagia is a common feature in advanced phases of Parkinson's disease (PD), representing a significant risk factor for aspiration pneumonia, which is the first cause of death in PD. The impact of dysphagia in advanced PD patients treated with levodopa-carbidopa intestinal gel (LCIG) has been poorly investigated.

*Methods:* We retrospectively evaluated data from 95 consecutive PD patients treated with LCIG in two Italian movement disorder centers. Kaplan-Meier survival analysis and log-rank test were used to compare the survival between patients developing dysphagia (LCIG-Dys) or not (LCIG-NDys). A Cox regression was used to estimate the influence of age, disease duration, Hoehn and Yahr (H&Y) at LCIG implantation, and presence of dysphagia on mortality. We used univariate and multivariate regression analysis to estimate the association between dysphagia and age, disease duration, H&Y, hallucinations, and dementia at last evaluation.

*Results:* The survival analysis showed a significant higher mortality in LCIG-Dys vs. LCIG-NDys group. Dysphagia was the only variable significantly associated with mortality (95%CI 2.780–20.609;  $p < 0.001$ ). Univariate analyses showed a significant correlation between dysphagia and dementia (OR: 0.387;  $p: 0.033$ ), hallucinations (OR: 0.283;  $p: 0.009$ ), and H&Y score (OR: 2.680;  $p < 0.001$ ). In the multivariate analysis, only the H&Y stage survived (OR: 2.357;  $p: 0.003$ ).

*Conclusions:* Dysphagia significantly increased the risk of death in our cohort of LCIG-treated patients, independently from the presence of dementia and hallucinations. These findings confirm the management of this symptom as a priority in the advanced PD stages, especially in people treated with LCIG.