

# Aspiration predictors in Parkinson's disease: Is there a relation between disease severity, disease duration and age of onset?

Dear Editor,

We have read with great interest the paper in this journal where Nienstedt et al<sup>1</sup> discussed aspiration's predictors in Parkinson's disease. It seems imperative to define clinical and demographical predictors of aspiration, especially in this group of patients who has difficulties in perceiving their swallowing changes and presents a high frequency of silent aspiration events<sup>2</sup> associated with the increase in morbidity and mortality.<sup>3</sup>

Regarding demographical data, this paper<sup>1</sup> brings that higher age is related to critical aspiration. The muscular and neurological changes related to aging process can be responsible for the higher prevalence of dysphagia in patients with PD, and this find is confirmed by other studies.<sup>4</sup> With respect to clinical data, the authors<sup>1</sup> did not find disease duration as a predictive factor of dysphagia, but it was pointed out as a significant factor to discriminate between patients with both normal and abnormal swallowing safety.<sup>5</sup> Disease severity, assessed by Hoehn and Yahr stage, is controversial regarding association with dysphagia.<sup>4,6</sup>

Later-onset PD patients are associated with more dysphagia symptoms.<sup>7</sup> This find may be associated with worse symptoms and a differential progression and may be explained by a faster neuronal loss in older-onset patients with reduced compensatory mechanisms.<sup>7</sup> If the patient with a later onset of the disease has worse dysphagia and higher age and H&Y, in this group of patients, dysphagia may be associated with age and disease severity but not with disease duration. On the other hand, patients with early onset have later swallowing symptoms, and in this group, when dysphagia occurs, it may be associated with disease severity and duration, in some cases with age. This hypothesis may imply a combined evaluation of aspiration predictors in patients with PD. The researchers must be aware that disease duration and severity may be important factors but must be correlated with other factors as age of PD onset.

With respect to swallowing predictors of aspiration, although events such piecemeal deglutition, residue in pharyngeal recesses, lingual pumping, and decreased cough reflex were associated with aspiration in patients with PD,<sup>5,8</sup> clinical or disease-specific factors would become high-value predictors of aspiration for the clinician or for the professional who does not have an instrumental examination of swallowing or cough.

The insidiousness of PD may impose minor modifications on the normal swallowing physiology, and the patients may not perceive the appearance of changes that are being compensated over time. The presence of a cognitive dysexecutive syndrome among


most patients with PD has been pointed out as another explanation.<sup>6</sup> Besides that, the reduction of laryngopharyngeal sensitivity<sup>2</sup> decreases the occurrence of alert events such as cough reflex, impacting the awareness of dysphagia, which increases the chance of aspiration pneumonia and death in this population. Therefore, it seems necessary to define predictors of dysphagia (not only of aspiration), checking the factors in combination to allow the early rehabilitation and management of dysphagia and reducing its impact on quality of life, social, and healthy aspects.

## CONFLICTS OF INTEREST

None.

## AUTHOR CONTRIBUTIONS

NA wrote the paper, ACN made the revision and aided to develop the rational; all authors discussed and contributed to the final manuscript.

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