

PATHOPHYSIOLOGY OF OROPHARYNGEAL DYSPHAGIA IN DEMENTIA PATIENTS TAKING ANTISSYCHOTICS USING A VIDEOFLUOROSCOPY STUDY

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5PSQ-087

Background

The prevalence of dysphagia in patients with dementia ranges from 13% to 84%. The high prevalence likely is the result of the presence of age-related lesions in the diffuse area of the brain in addition to those produced by the neuropathology. Moreover, antipsychotics (APs), which are extensively used to treated dementia patients, have also been associated with impaired swallow.

Methods

An observational cross-sectional study was performed on dementia patients discharged from the Hospital with a diagnostic of dementia and a VFS study. An overall assessment was carried out on the day of admission by a multidisciplinary team and included (i) demographic data, (ii) pharmacological treatment, (iii) comorbidities carefully collected and measured with the Charlson Comorbidity Index, (iv) functional capacity analyzed with the Barthel Index and (v) the Global Deterioration Scale (GDS) before the VFS. The VFS recordings were obtained one month after the discharged.

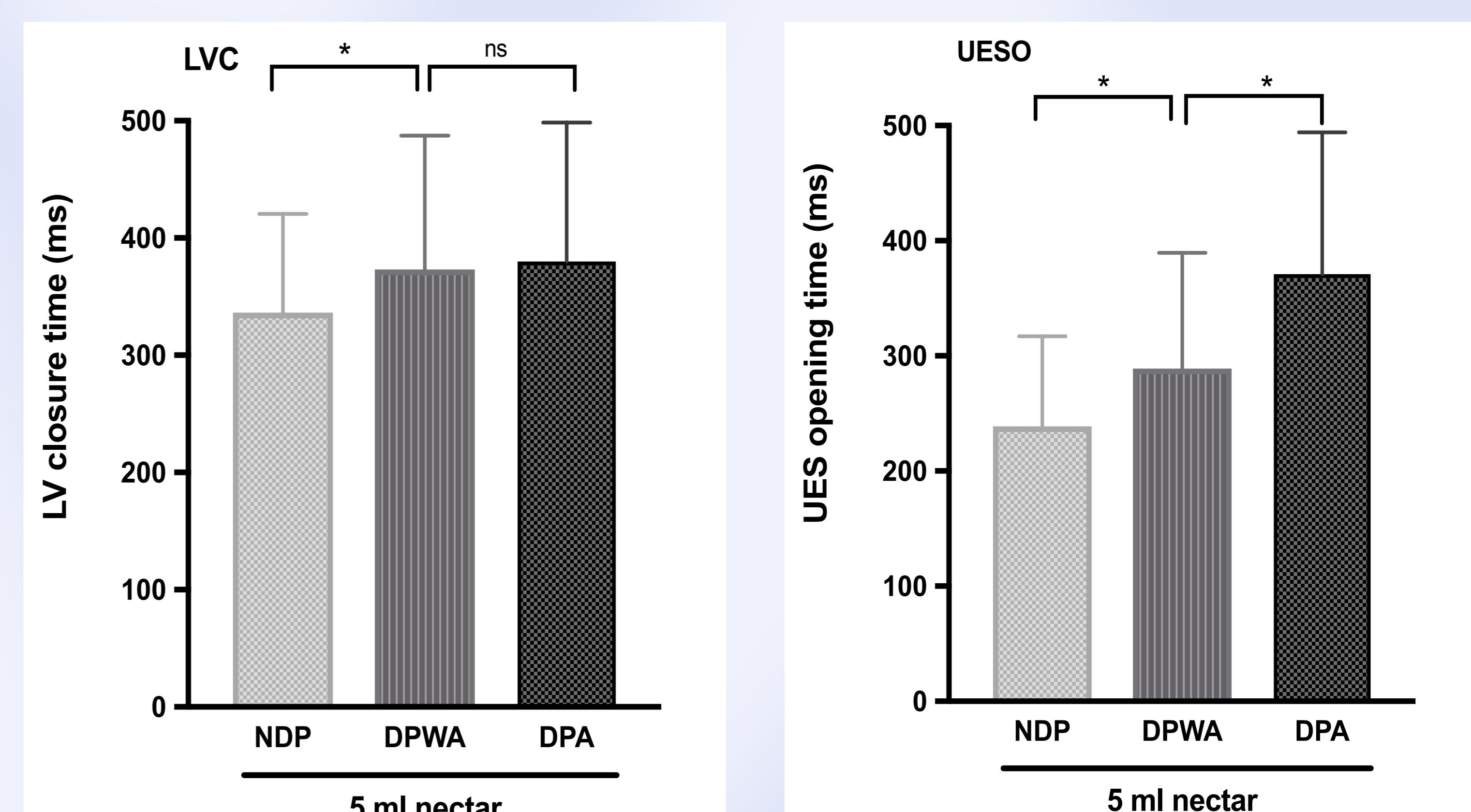
Results

We included 129 consecutive dementia patients (82.2 ± 7.8 years, 56.3% woman). Patients with signs of penetration or aspiration during VFS studies (PAS ≥ 3) showed poor functional capacity (Barthel Index 49.94 ± 3.427 vs 54.88 ± 4.128 with safe swallow), poor Charlson Index (5.47 ± 0.98 vs 5.37 ± 0.90 with safe swallow) and GDS (3.73 ± 1.71 vs 3.33 ± 1.69 with safe swallow). The prevalence of dementia patients with oral or pharyngeal residue was 85.2% (N=109). According to Rosenbek's scale, 76% of patients with impaired safety showed severe penetrations (levels 3-5). Of 129 dementia patients, 45 (34.9%) were receiving antipsychotics. The penetration aspiration scale (PAS), laryngeal vestibule closure (LVC) and upper esophageal sphincter opening (UESO) averages were higher with increasing antipsychotic exposure, and more with typical APs and with the potency of the APs to induce EPs, but did not reach statistical significance after the multivariate analysis ($p=0.200$ for PAS and $p=0.944$ for oral and/or pharyngeal residue).

Objectives

The objective of this study is to characterize the patophysiology of oropharyngeal dysphagia (OD) using videofluoroscopy (VFS) in patients with dementia taking APs.

Figure 1. Timing of main events of the oropharyngeal swallow response during 5 mL-nectar swallows in no dementia patients (NDP), dementia patients without taking APs (DPWA) and dementia patients taking APs (DPA) and according to the safety and efficacy of swallow. (A) Laryngeal vestibule closure (LVC) in NDP, DPWA and DPA; (B) Upper esophageal sphincter opening (UESO). * $P < 0.05$, ns: non-significant.



Conclusions

Our study shows that dementia patients present severe VFS signs of impaired safety and efficacy of swallow and they are more severe in patients taking APs, although not reaching statistical significance in our study. This study highlights the importance to consider the swallowing impairment as an adverse effect of APs use.