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INSTITUTE FOR SOCIAL MEDICINE AND EPIDEMIOLOGY
SCHÖN KLINIK München Schwabing
International Parkinson and Movement Disorder Society
18TH INTERNATIONAL CONGRESS OF PARKINSON'S DISEASE AND MOVEMENT DISORDERS
STOCKHOLM sweden JUNE 8-12, 2014

CLINICAL PREDICTORS OF DYSPHAGIA IN PARKINSON'S DISEASE

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OBJECTIVE

- To investigate clinical characteristics and swallowing impairments to predict oropharyngeal dysphagia and laryngeal aspiration risk.

BACKGROUND

- Dysphagia is a relevant but often underdiagnosed problem in patients with Parkinson's Disease (PD), leading to severe pulmonary disease and reduced quality of life.
- Identification of clinical parameters predicting dysphagia should aid deciding when to initiate further diagnostic procedures.

METHODS

- 77 consecutive PD patients were assessed by neurological examinations, clinical and endoscopic swallowing evaluations (FEES) with different consistencies.
- Patients were assigned to groups 'not dysphagic (ND)', 'oropharyngeal dysphagia (OD)' and 'with penetration/aspiration (P/A)' according to their performance in 18 standardized parameters.
- Association (+/-) between dysphagia severity and the predictor variables Hoehn & Yahr stage, UPDRS III, disease duration, age, Drooling Score Scale (DSS), body mass index, and dysarthria score were analyzed using Spearman's Rank Correlation or Kendall's Tau (α=0.05).

RESULTS

- 21 patients were classified as ND (mean age 68.8 $\pm$ 7.4 years, median HY 3), 34 patients as OD (70.7 $\pm$ 8.4, HY3) and 22 as P/A (71.8 $\pm$ 9.5, HY 4).
- The higher the stage of PD the more frequent were swallowing problems (tb= +0.43, p < 0.001, Table 1).
  Whereas HY 4/ 5 were represented in group ND with <10/ 0%, they were found more frequently in OD (38%) and P/A (77%).
- Dysphagia correlated moderately with worsened motor performance (rs= +0.48, p < 0.001, Table 2).
  Significant differences of UPDRS III were detected between ND (20.89 $\pm$ 12.71) and OD (31.50 $\pm$ 9.77), or P/A (38.46 $\pm$ 14.28).
- Dysphagia correlated weakly with worsened DSS (rs= +0.26, p=0.020, Table 3).
- Age, disease duration, BMI, or dysarthria score did not interact with swallowing.

CONCLUSIONS

- Dysphagia is shown to be closely associated with higher HY stages and worsened motor performance, which therefore can be used as predictors.
- For practical routine we suggest to screen for dysphagia when patients are HY $\geq$4, or have scores at about >30 in the UPDRS motor part.
- These cut-offs need confirmation by further research. A reasonable screening approach could be a recently validated patient questionnaire [1].

REFERENCE   1. Simons JA. Munich Dysphagia Test–Parkinson's Disease:
A new clinical questionnaire for early assessment of dysphagia in PD.
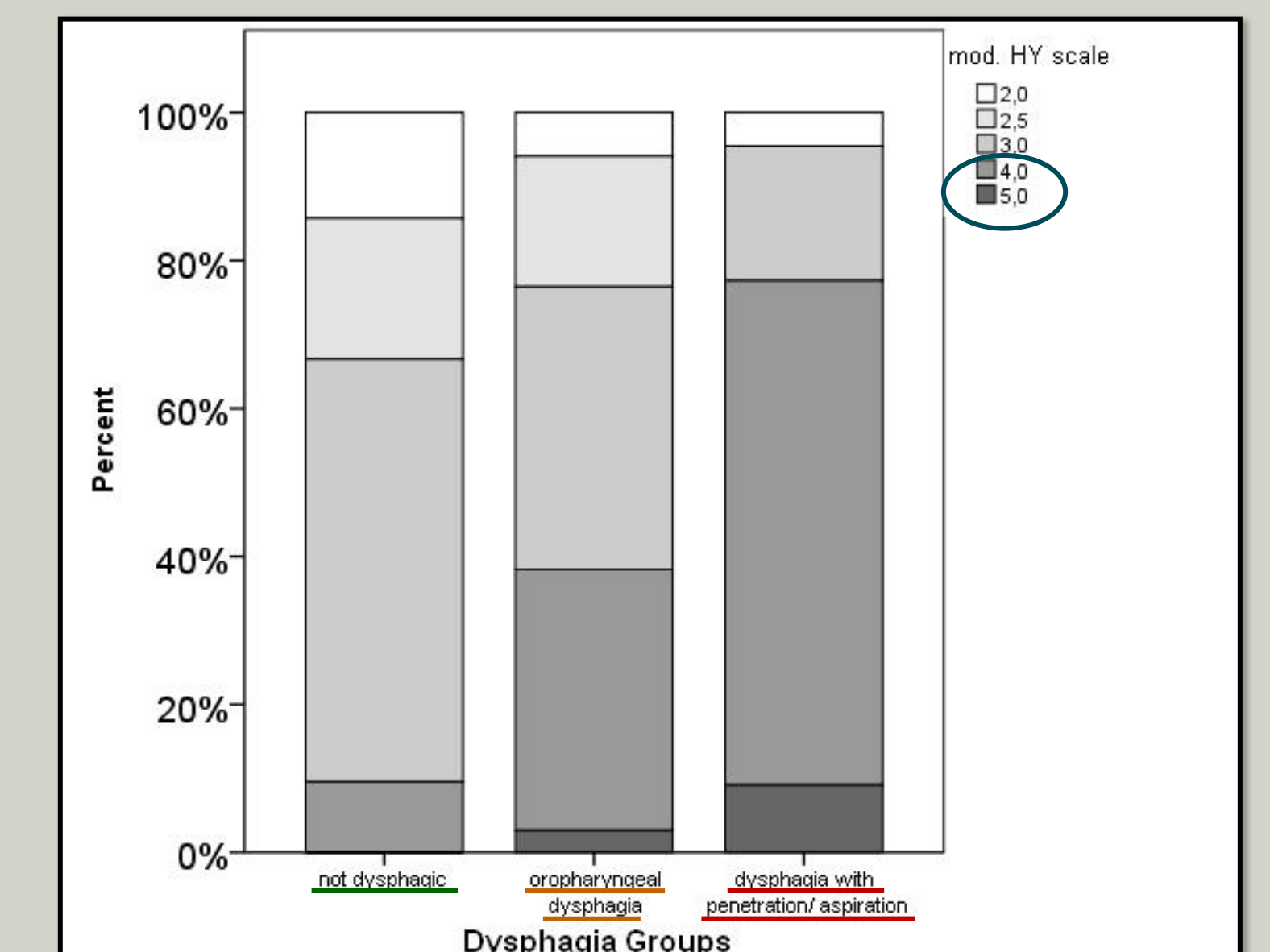Eur Soc Swallow Disord. Dysphagia 2013;28(2):289

MDT MUNICH DYSPHAGIA TEST

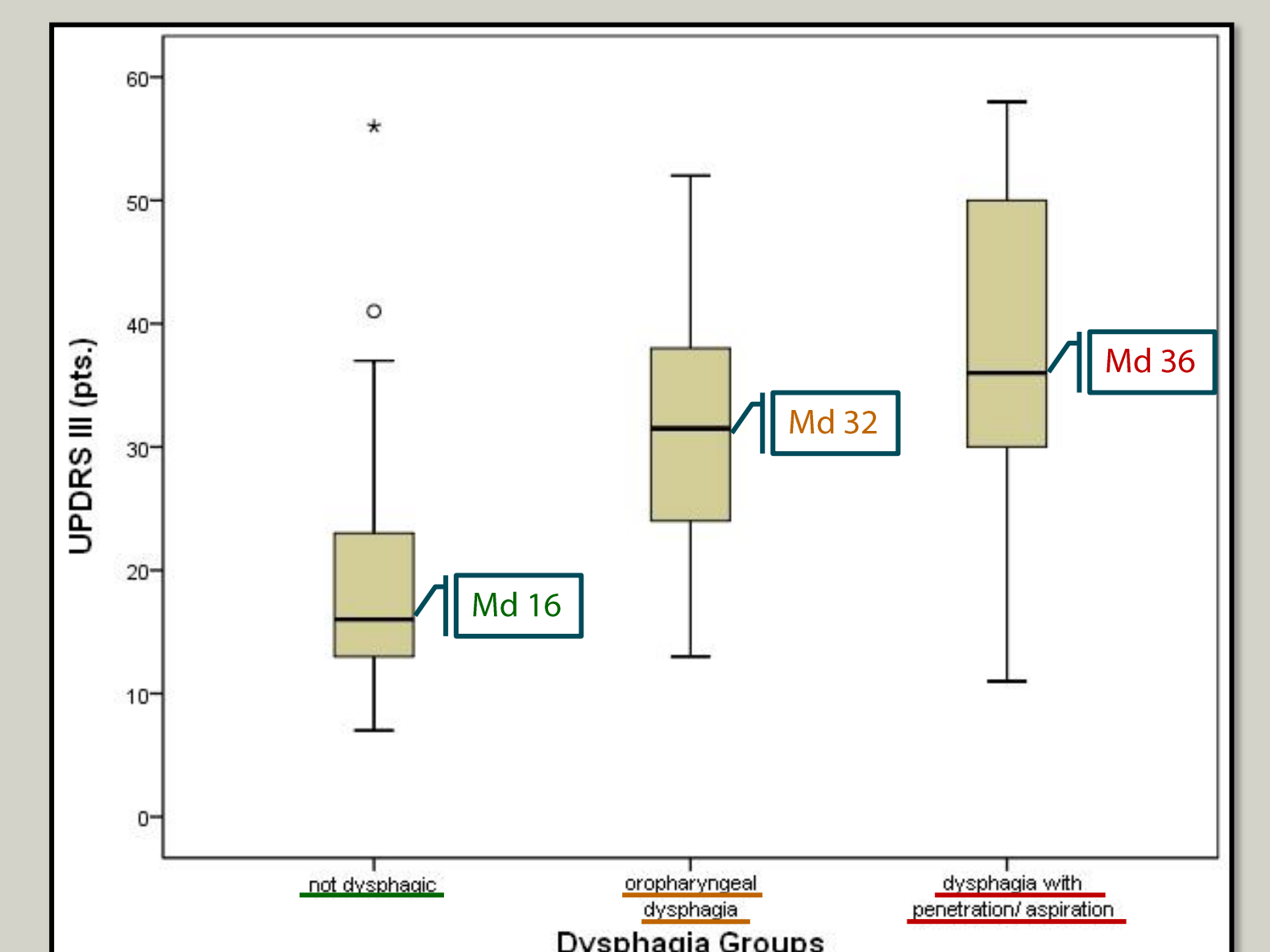**Table 1** Frequency distribution of HY stages according to dysphagia severity groups

Table 2 Frequency distribution of UPDRS III values according to dysphagia severity groups
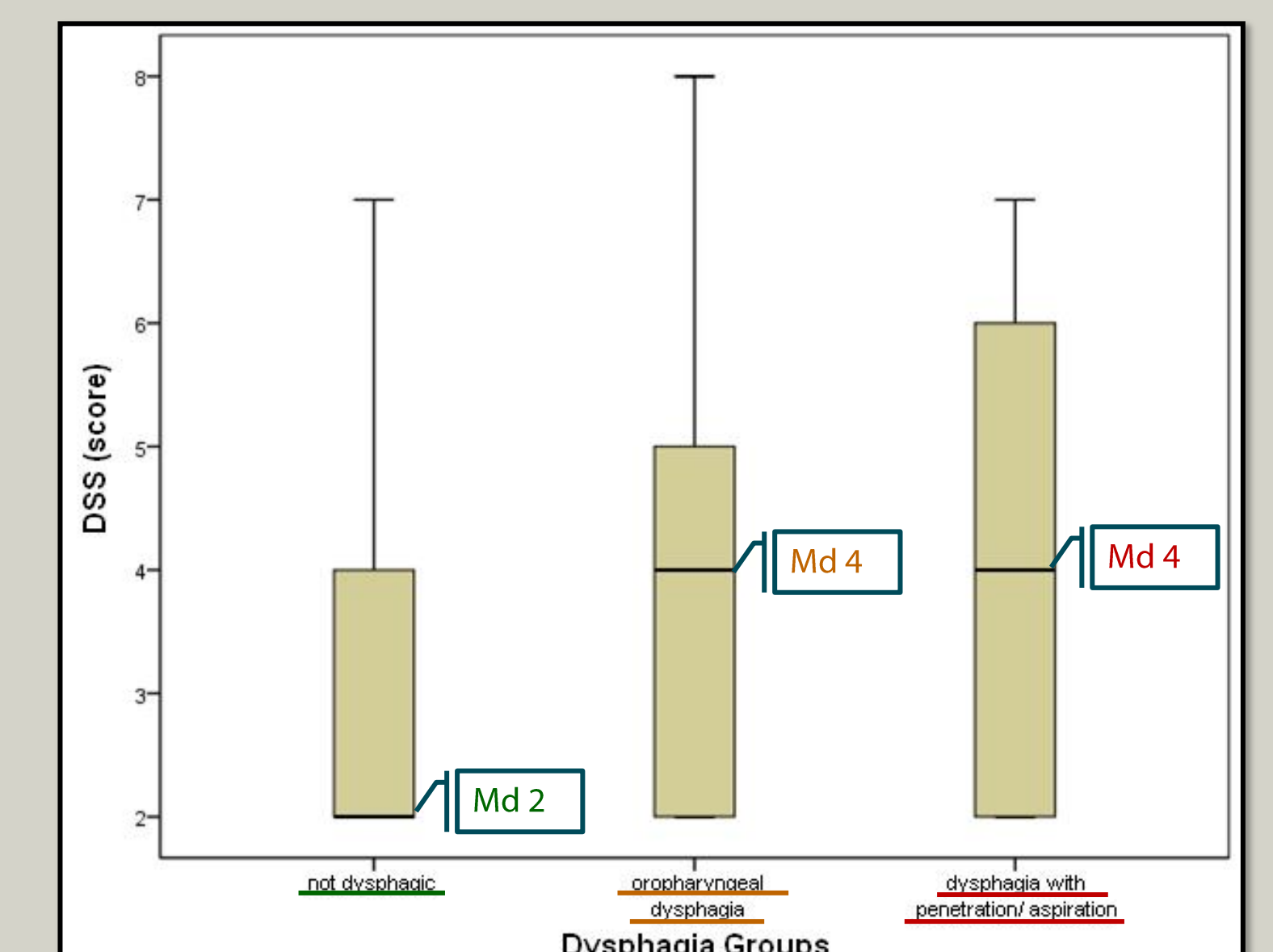

Table 3 Frequency distribution of DSS sum scores according to dysphagia severity groups

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