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Effect of Smoking on Multiple Sclerosis Related Dysphagia

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Background: Dysphagia is an underestimated cause of morbidity and, in some occasions, mortality in multiple sclerosis (MS) patients. Although its prevalence in MS patients has reached 10-90% in recent systematic reviews, it still hasn't received enough attention yet. Smoking status is directly related to swallowing difficulties in general, but no data exists in MS. The aim of our study was to assess the relationship between smoking status and MS related dysphagia.

Method(s): Our study is an observational cross-sectional study that included a total of 100 clinically definite MS patients, diagnosed according to the 2017 revised McDonald Diagnostic Criteria. Such patients were randomly chosen within a definite time interval from Kasr Al Ainy Multiple Sclerosis outpatient clinic, and were further subdivided into 2 groups: dysphagic (study group) and non-dysphagic (control group) according to Dysphagia in Multiple Sclerosis questionnaire (DYMUS). Dysphagia group was subdivided into 2 groups: smokers and non-smokers. All patients underwent a clinical assessment, an Expanded Disability Status Scale (EDSS), a brain Magnetic Resonance Imaging (MRI) with contrast. Furthermore, the study group patients performed the Dysphagia Handicap Index (DHI) and Flexible Endoscopic Evaluation of Swallowing (FEES).

Result(s): There was a statistically significant difference in percentage of smokers, being higher in dysphagic group than non-dysphagic group (p-value = 0.03). DHI and DYMUS questionnaires scores showed statistically significant differences in smoker than nonsmoker dysphagics (p-value = 0.01 and 0.04 respectively). Finally, FEES results showed significantly higher silent aspirations in smoker versus nonsmoker dysphagics (p value = 0.001).

Conclusion: Smoking status greatly influences MS-related dysphagia. Smoking increases the incidence and severity of developing swallowing difficulties in MS, specifically rising the risk of silent micro aspirates, thus increasing MS-related morbidity and mortality.