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STN-DBS does not increase the risk of sialorrhea in patients with advanced Parkinson's disease

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Background: Sialorrhea is a frequent and disabling symptom in patients with Parkinson's disease (PD) [1]. To date, no study has been specifically designed to test the effects of deep brain stimulation (DBS) on sialorrhea in PD.

Objective: We aimed to evaluate the effect of STN-DBS on the development of sialorrhea in PD patients, assessing its incidence rate and risk factors in the long-term follow-up.

Methods: Sialorrhea development was retrospectively evaluated in two groups of STN-DBS and medically managed PD patients. Risk factors for sialorrhea were evaluated collecting demographic and clinical data.

Results: A total of 132 patients (88 with DBS and 44 on medical treatment) were included. The demographic and clinical variables, including sialorrhea, were similarly distributed between the two groups. Throughout the follow-up period [mean 7.9 years for the DBS group and 4.6 years for the control group], 24 DBS patients and 7 controls developed new onset sialorrhea. Sialorrhea incidence did not differ between the STN-DBS and the control groups: 49.2 and 43.7 per 1,000 person-years of observation respectively ($p = 0.8$). Male sex [hazard ratio (HR) 1.6, $p = 0.006$], Hoehn and Yahr (HY) stage (HR 2.6, $p = 0.006$), and dysphagia (HR 3.5, $p = 0.002$) were independent risk factors for sialorrhea. Interestingly, STN-DBS did not significantly increase the risk of developing sialorrhea (HR 1.4, $p = 0.3$). Comparing DBS patients with and without new onset sialorrhea, no difference was found for stimulation parameters.

Conclusions: In our cohort, the risk factors for sialorrhea were male sex, HY stage, and dysphagia, as previously described in literature [2]. The present study shows that STN-DBS does not increase the risk of developing sialorrhea in the long term follow-up, suggesting that sialorrhea is a consequence of the underlying neurodegenerative disease, regardless of DBS.

References:

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