

Apraxia of speech in progressive supranuclear palsy: the use of video recordings to facilitate diagnosis

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Objectives: The aim of our study is to describe clinical characteristics of Apraxia of Speech (AOS) in a group of patients with probable Progressive Supranuclear Palsy (PSP), by viewing video recordings of the language assessment.

Materials: We administered the Apraxia of Speech Rating Scale 3.0 (ASRS 3.0) [1], while watching the video recording of the patients' performance at the Screening for Aphasia in NeuroDegeneration (SAND) and the patient's free description of a "typical day". Items 9, 10 and 11 of ASRS 3.0 were not used for the present study, as they were linked to the Alternate Motion Rate (AMR) and Sequential Motion Rate (SMR) tasks, not included in the original language assessment. Therefore, the maximum detectable score was 40 points instead of 52.

Methods: We retrospectively recruited 10 PSP patients from the Movement Disorder Clinic of the IRCCS Institute of the Neurological Sciences of Bologna. All participants had undergone full neuropsychological evaluation including language function assessment, we viewed each video by applying the protocol previously reported.

Results: No significant aphasic deficits were reported. Comprehension of Sentences and Reading were the only two compromised linguistic components. Two subjects presented clear signs of AOS while only one had no manifestation of AOS, the remaining showed mild signs. Six participants produced sound distortions, but only in one case they were frequent and pervasive, while five patients showed distorted sound substitutions. Two subjects presented a marked slow overall speech rate, while four manifested syllable segmentation within words and across words. Two subjects displayed a systematic tendency to lengthened vowel segments. Two patients showed false starts, indicating difficulty in articulating the first syllable of the word. No patient had clear signs of groping.

Discussion: In our study, video recordings proved to be extremely important to facilitate the differential diagnosis between AOS, dysarthria and aphasia, and may be useful to longitudinally monitor the evolution. We confirm that video recordings are a valid and useful resource in clinical practice [2].

Conclusions: This study points out that most of our sample of PSP patients had signs of AOS, albeit mild. It will be necessary to expand the current assessment protocol, adding AMR and SMR tasks. The present findings support the importance of integrating standard assessment protocols for these patients, to refine the diagnostic practice and be able to more effectively describe the linguistic profiles that better characterize PSP.

References:

- [1] Wambaugh JL, Bailey DJ, Mauszycki SC, Bunker LD. Interrater Reliability and Concurrent Validity for the Apraxia of Speech Rating Scale 3.0: Application With Persons With Acquired Apraxia of Speech and Aphasia. *Am J Speech Lang Pathol.* 15 2019;28(2S):895–904.
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