

Functional foreign accent syndrome and the role of auditory exclusion

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Introduction: Functional Foreign Accent Syndrome (fFAS) represents a rare functional speech disorder, not compatible with recognized neurological or medical conditions, in which listeners perceive the affected individual as speaking with a foreign accent.

We here report on a patient with fFAS to: 1) increase awareness on this entity; and 2) discuss the effect of auditory exclusion, as we believe it provides a better insight on the pathomechanisms underlying functional motor disorder (FMD) more in general.

Case description: A 44-year-old woman had severe FAS that we diagnosed functional in line with clinical criteria [1]. In fact, her clinical symptoms started one year before with acute mutism but her phenotype changed over time. She subsequently developed weakness of one limb and dysarthria, both symptoms resolving spontaneously in few weeks. She then developed fFAS, which is currently her only complaint. The entire neurological examination and brain MRI were negative.

To explore if fFAS was modulated by different activities, we had the patient sing with the exclusion of auditory feedback.

Contrary to our expectations, fFAS worsened with auditory exclusion.

Discussion: Contemporary motor theory proposes that motor control follows a feed-forward model in which self-generated movements are accompanied by a sensory prediction of the motor outcome. In FMD, sensory feedback appears to be intact and the mismatch between prediction and outcome could be due to an abnormality in the internal prediction. The sensory feedback helps the motor program and output and, in our case, the abolition of the auditory feedback might have left the aberrant internal prediction “prior” totally unconstrained, leading to a worsening of the motor output [2]. This would suggest that an increase of sensory feedback awareness could modulate the motor output in FMD in general.

References:

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- [2] Edwards MJ, Adams RA, Brown H, et al: A Bayesian account of ‘hysteria’. *Brain* 2012; 135:3495–3512.