

## Saturday

### **4 mA tDCS with executive training collaterally improves naming scores in logopenic variant primary progressive aphasia (lvPPA): A case study**

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**Rationale:** Various tDCS approaches have been tried in the attempt to improve language outcomes in PPA with promising results in nvPPA and lvPPA including research from Roncero-Chertkow lab. However, almost all the available studies have used standard amplitude current (2 mA) in PPA. While the safety and effectiveness of high amplitude (4 mA) tDCS have been demonstrated in other neurodegenerative diseases, its potentially beneficial effect in PPA is yet to be explored. **Methods:** A right-handed female aged 72 years, with diagnosed logopenic variant PPA, underwent 4 mA tDCS with executive training and we documented naming and MMSE scores as a secondary outcome. We administered two rounds of tDCS (each 7 days x 30 minutes each day), where the anode was placed over the left frontal-orbital area and the cathode was placed over the midline occiput. Stimulation was delivered at an intensity of 4 mA in one round, whereas SHAM stimulation was given in the other. During stimulation, SHAM or real, the participant completed several executive tasks. Evaluation took place pre-stimulation, at the final stimulation session, and two weeks later. **Results:** We found that both MMSE and Naming scores decreased when stimulation was SHAM, but increased when stimulation was real. **Conclusion:** The most noteworthy observation in this case is the improvement in naming scores with tDCS even without the subject being trained for language functions. Generalization of the cognitive benefit may relate to the effect of higher amplitude tDCS that was employed in this case.

### **Conflicts of interest**

No conflicts of interest