



Figure 1. An example of physiological mirror activity (pMA) in the left abductor digiti minimi (IADM) during right little finger abduction in the representative subject.

Conclusions: Our preliminary results demonstrated the feasibility of pMA testing to investigate the somatotopy of the interhemispheric interactions in the motor system. We suggest that the spatial specificity of pMA can be used for planning neuromodulatory protocols in motor stroke. The study was funded by RFBR grant №20-315-70048. This study used the HSE Synchronous Eye-tracking, Brain Signal Recording and Non-Invasive Brain Stimulation System.

Trial Registration Number:

EPP0215/#1963

E-POSTER PRESENTATIONS TOPIC: AS19 BRAIN REORGANISATION AND RECOVERY

FEASIBILITY OF PROBING CORTICOSPINAL EXCITABILITY IN SEVERAL UPPER LIMB MUSCLES IN STROKE PATIENTS WITH UPPER LIMB MOTOR DEFICIT

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Background and Aims: The possibility to evoke a motor response (MEP) in a hand muscle by transcranial magnetic stimulation (TMS) is a common proxy of the corticospinal tract integrity after a motor stroke.

However, it is still not clear how many muscles should be studied, and which muscles are preferable to probe. Here we aimed to investigate corticospinal excitability in several muscles in stroke patients with upper limb motor deficit.

Methods: We enrolled 31 stroke patients (15 females, mean 54 [38–83] y.o, 4 [1–11] months poststroke) with a single clinical episode of stroke and unilateral hand weakness, assessed by Fugl-Meyer Upper Extremity Scale. We measured corticospinal excitability in three hand muscles of the paretic limb and in one muscle in the unaffected hand.

Results: 7 out of 24 patients (29%) with MEPs in the affected hand had MEPs in just one or two muscles, no significant difference was found among resting motor thresholds (RMTs) of the affected hand muscles. While MEP negative patients were all severely affected, patients with MEPs varied extensively in their paresis level. RMT ratio between affected and unaffected hemispheres was the most correlated parameter with the motor deficit (CI: -0.75 to -0.16 ; $P = 0.005$).

Conclusions: Our preliminary results highlight the importance of several muscles investigation for the purpose of MEP finding to increase the amount of MEP positive stroke patients, which is crucial for neurorehabilitation trials. Longitudinal studies are needed to elucidate whether the difference in corticospinal excitability among muscles has an added value for recovery prediction.

Trial Registration Number:

EPP0216/#900

E-POSTER PRESENTATIONS TOPIC: AS20 LARGE ARTERY ATHEROSCLEROSIS – INCLUDING INTRACRANIAL STENOSIS

CAROTID PLAQUE INFLAMMATION IMAGED BY POSITRON EMISSION TOMOGRAPHY IMPROVES PREDICTION OF LATE RECURRENT STROKE AT 5 YEARS

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Background and Aims: ¹⁸F-fluorodeoxyglucose positron emission tomography (¹⁸FDG-PET) identifies carotid plaque inflammation and predicts early recurrent stroke. No data exists on carotid plaque inflammation measured by ¹⁸FDG-PET and late recurrent stroke.