

Erratum

Reorganisation of cerebral circuits in human ischemic brain disease

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The publisher regrets the error. Figures 5 and figure 8 were switched.

It should read:

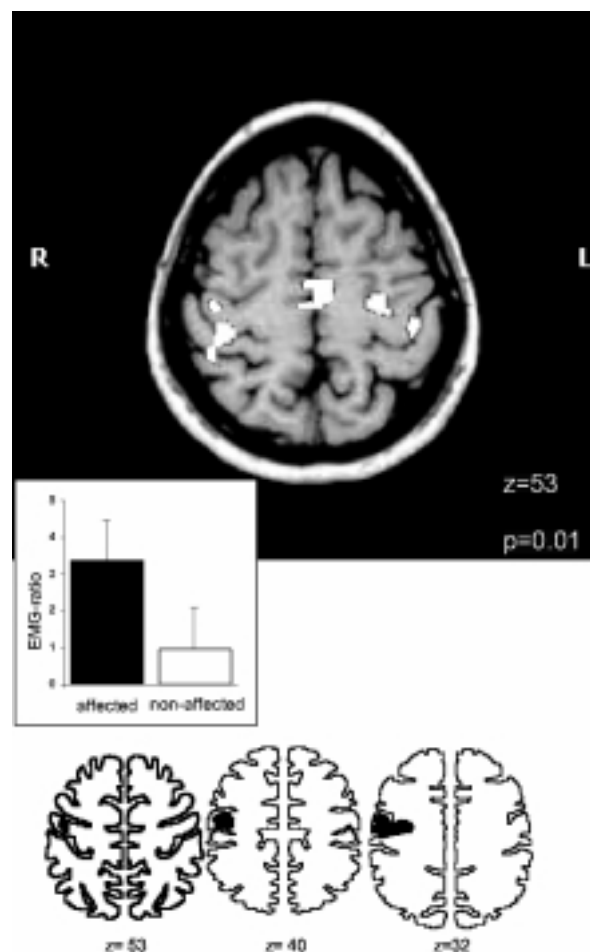


Fig. 5. Increased recruitment of ipsilateral motor areas when moving the affected hand in one patient with right hemispheric brain infarction. A. Contrast between performance of motor task with the paretic left hand and rest. In this study the patient is performing a finger sequence with the affected left hand while the right non-affected hand is relaxed. Activation of ipsilateral precentral gyrus is evident (level of the axial view is given in z-coordinate of Talairach space, p gives the threshold). Electromyographic recording of the extensor digitorum communis muscle of both hands during the motor performance (inset) confirmed that this increased recruitment was not due to co-activation of the non-affected hand. The ratio of EMG activity while performing the task and at rest was calculated. As indicated by the EMG ratio of 1 for the right hand, this hand was relaxed during the performance of the left hand. In contrast the EMG ratio of about 3 indicates that this hand was active during the task. B. The location of the infarction is illustrated in the axial slices of the schematic brain in Talairach space. The levels of the axial slices are given in z-coordinates.

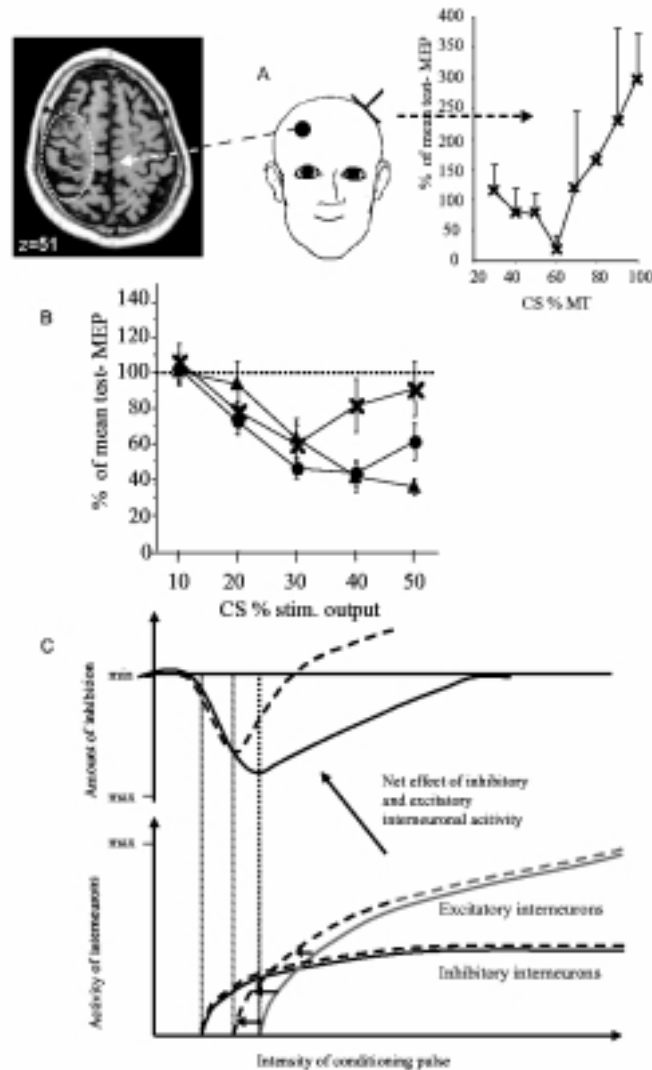


Fig. 8. A. Paired pulse excitability in a single patient with good recovery. The infarct of this patient's brain is shown in the MRI (Talaraich coordinate of the axial slice is given). The schematic head gives the position of the infarct (black dot) and site of TMS (stimulating coil is indicated by the bar). Inhibition and facilitation produced by paired pulse TMS at a constant ISI of 2ms with the conditioning pulse (CS) at different intensities of the stimulator output in this patient. CS is expressed as percentage of the patients motor threshold (MT). B. Paired pulse excitability in patients with good ($n = 13$) and poor ($n = 5$) recovery and healthy age-matched controls ($n = 13$). Inhibition and facilitation produced by paired pulse TMS at a constant ISI of 2 ms with the conditioning pulse (CS) at different intensities of the stimulator output in normal volunteers (filled dots), patients with good recovery (cross), and patients with poor recovery of hand function (triangle). Responses were recorded in the relaxed FDI muscle of the non-affected hand. The MEP amplitudes at different CS intensities were calculated as a percentage of the mean amplitude of the test pulse alone. CS intensity is expressed as percentage of stimulator output. Note the similarity of the slope on the left in patients and healthy volunteers while inhibition fades rapidly with increasing CS intensities in patients with good recovery (right) suggesting that in patients the balance of excitatory and inhibitory activity was shifted towards an increase of excitatory activity or lowered threshold for excitatory interneurons. This was not seen in patients with persistent hemiplegia. Mean and \pm SE. C Schematic excitatory and inhibitory activity: In the lower part of the diagram the intracortical excitatory (black) and inhibitory (grey) interneuronal activity of normal subjects (solid line) and patients (dotted line) is plotted against the intensity of the conditioning pulse. With increasing CS intensity both intracortical inhibitory and excitatory activity increase. In either group the inhibitory interneurons are recruited at lower CS intensities when compared to the excitatory interneurons. In patients however the threshold for the excitatory interneurons is shifted towards lower intensities as indicated by the shift of the dotted line to the left (arrows). In the upper diagram the net effect of inhibitory and excitatory activity as measured by the inhibitory effect of the CS on the conditioned MEP amplitude (amount of inhibition) is plotted against the intensity of CS. Because of the earlier recruitment of excitatory interneurons in patients, the net effect of inhibitory and excitatory activity is shifted towards less inhibition (modified after [22]).