LETTER TO THE EDITOR

Neuroimaging of eye position reveals spatial neglect: a commentary

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Sir, We read with great interest the recent paper published in Brain by Becker and Karnath (2010). We are particularly interested in the presence of unsustained gaze deviation during clinical assessment in their series.

Recently, we reported a patient who presented with a left-sided facio-brachio-crural paresis, left hypoaesthesia, dysarthria and left-sided spatial neglect, scoring 7 on the National Institutes of Health Stroke Scale (NIHSS). The patient did not have sustained gaze deviation on neurological exam, but when she underwent a CT scan, the ‘eye sign’, with right-side deviation, was evident. She was treated with recombinant tissue plasminogen activator, resulting in improvement of neurological deficits. At follow-up 24 h later, brain MRI confirmed an infarct in the right insular subcortical region (subinsular territory) (Porto et al., 2009). We hypothesize that, during the performance of CT, the symmetrical visual stimuli may had provoked left-side visual extinction or that closure of the eyes or even darkness may have caused biased ocular searching mechanism that gave rise to gaze deviation (Homak, 1999).

Patients with right-hemisphere stroke are less likely to be correctly diagnosed (Foerch et al., 2005) and treated with recombinant tissue plasminogen activator (Fink et al., 2001), mainly because severity can be underestimated in right-side strokes (Woo et al., 1999; Fink et al., 2002). The NIHSS scores more points for language-related deficits than for neglect. One possible reason is that neglect is frequently missed in comparison with aphasia (Fink, 2005). In the acute phase, when time is essential, the early identification of spatial neglect really matters for treatment decision. The eye sign is easy to identify and is independent of clinical experience in testing for neglect. Besides, its interpretation is not changed by the level of the patient’s arousal, attention and verbal comprehension. The non-identification of neglect may underestimate severity of the stroke and erroneously preclude the treatment with thrombolytic drugs. The identification of neglect doubles the likelihood of recombinant tissue plasminogen activator administration in patients with right-hemisphere strokes (Di Legge et al., 2005). Thus, better identification of neglect in acute phase is essential to improve the care of patients with right-hemisphere lesions, and the ‘eye sign’ should be a clue for investigation of neglect in acute strokes, even without sustained gaze deviation.

References

Fink JN, Selim MH, Kumar S, Silver B, Linfante I, Caplan LR, et al. Is the association of National Institutes of Health Stroke Scale scores and acute magnetic resonance imaging stroke volume equal for patients