The functional anatomy of a hysterical paralysis

John C Marshall, Peter W Halligan, Gereon R Fink, Derick T Wade, Richard S.J Frackowiak

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Abstract

The concept of a conversion disorder (such as hysterical paralysis) has always been controversial (Ron, M.A. (1996). Somatization and conversion disorders. In: B.S. Fogel, R.S. Schiffer & S.M. Rao (Eds.), Neuropsychiatry. Williams and Wilkins, Baltimore, MD). Although the diagnosis is recognised by current psychiatric taxonomies, many physicians still regard such disorders either as feigned or as failure to find the responsible organic cause for the patient's symptoms. We report a woman with left sided paralysis (and without somatosensory loss) in whom no organic disease or structural lesion could be found. By contrast, psychological trauma was associated with the onset and recurrent exacerbation of her hemiparalysis. We recorded brain activity when the patient prepared to move and tried to move her paralysed (left) leg and when she prepared to move and did move her good (right) leg. Preparing to move or moving her good leg, and also preparing to move her paralysed leg, activated motor and/or premotor areas previously described with movement preparation and execution. The attempt to move the paralysed leg failed to activate right primary motor cortex. Instead, the right orbito-frontal and right anterior cingulate cortex were significantly activated. We suggest that these two areas inhibit prefrontal (willed) effects on the right primary motor cortex when the patient tries to move her left leg.

Keywords

Hysterical paralysis; Functional brain imaging; Orbito-frontal cortex; Anterior cingulate; Negative motor areas

Corresponding author: Fax: +44 1865 558164.
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