Of Postures, Mirrors, and Models in Catatonia

To the Editor: Posturing in catatonia is one of its more distinctive phenomena, the bizarreness of which has fascinated psychopathologists, clinicians, and researchers alike. Fish[1] describes posturing as a disorder of goal-directed movements. Cutting[2] ascribes it to a disintegration of purposeful actions and gives it a status of pseudo-purposefulness. We report a case of catatonia that presented with a wide range of posturing, involving groups of muscles from head to toe, and we highlight the relevance of a broader conceptualization of posturing and newer research forays based on fundamentals of motor cognition.

Case Report

A 26-year-old man from southern India with unremarkable past, personal, and family history presented with illness lasting 8 days that had abrupt onset and polymorphic course. Symptoms appeared in the sequence of paranoid delusions and extreme psychomotor excitement, and over the next 2 days, he displayed florid catatonic features, the most dramatic of them being demonstration of an array of posturing signs from head to toe.

The patient's face displayed grimacing (due to facial muscle spasm giving an appearance of a sneering grin like that of *risus sardonicus*) and motor stereotypies of his lower jaw with instances of spasms in his jaw muscles leading to trismus. Staring was evident, with fixed gaze and poor blink rate. Stereotyped posturing was observed in the neck and shoulder muscles as he lay supine in bed with his head a few inches off the pillow (psychological pillow) and in the extensor spinal muscles which led to episodic and recurrent opisthotonus or *arc de cercle*. Classical mannerist posturing involving the upper limbs was evident, with his arms spontaneously held in a prayer-like folded manner (*namasthe* in Indian culture). Catalepsy or perseveration of posture was observed in both upper and lower limbs when placed in a series of uncomfortable postures. The posturing display occurred in episodes lasting 1–20 minutes over a period of 36 hours. There was no historical account of being administered neuroleptics. Examination did not reveal neurological deficits. Despite extensive metabolic, imaging, and EEG investigations, no organic pathology was demonstrated. The patient improved with ECT after partial response to lorazepam.

Discussion

It has been more than a century since Kahlbaum[3] described catatonia as a syndrome of motor abnormalities, yet it remains a poorly understood phenomenon. Novel methods based on fundamentals of cognitive and social neurosciences may shed some light on neurobiology of catatonia. We propose a broader conceptualization of posturing as a prototype motor dysregulation state based on recent advances in mirror neurons and motor cognition. The increasing understanding of neural circuits underlying motor cognition domains of intention (presupplementary motor area and intraparietal sulcus),[4] initiation (supplementary motor area),[5] termination (right posterior parietal cortex),[6] implicit motor feedback for execution (anterior cingulate),[7] sense of agency and gnosis of these phenomena (mirror neurons of inferior parietal lobule, pars opercularis of inferior frontal gyrus and insula)[8] is an exciting development. These concepts can be utilized in formulating a composite cognitive model of catatonia which can then be empirically tested.

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