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Misoplegia: a review of the literature and a case without hemiplegia

Brain damage may cause profound changes in people's attitudes towards their own bodies. Relatively common after unilateral lesions are anosognosia and anosodiaphoria—that is, the denial of, or unconcern about, a sensorimotor hemisindrome. Less familiar forms of altered limb perception include asomatognosia (lack of awareness of a part of the body), somatoparaphrenia (lack of ownership of a paralysed limb), the experience of supernumerary phantom limbs (reduplication of limbs on the affected side of the body), personification (nicking a limb and giving it an identity of its own) and misoplegia. The term misoplegia was coined by Critchley^{1,2} and refers to the morbid dislike or hatred of paralysed limbs in patients with hemiplegia. Minor manifestations of this condition may be restricted to verbal aggression towards a limb, but commonly misoplegia includes physical acts such as striking and beating the hemiplegic extremity.^{1–3} Although these verbal or physical acts of self-directed aggression are impressive, detailed case reports are rare. Apart from the anecdotal communications by Critchley^{1,2} and some passing notes by others, we are aware of only six published accounts. These cases and our new observation are summarised in the supplementary data available online at <http://jnnp.bmjjournals.com/supplemental>.

Case history

A 79-year-old ambidextrous woman had poliomyelitis with atrophy and shortening of the left leg (about 6 cm) in her early childhood. Wearing an orthopaedic shoe, she was fully mobile, enjoyed sports and led a normal life with a career as a bank assistant. Her medical history was otherwise uneventful.

She was admitted to hospital because of sudden mood changes, abdominal pain, dizziness, cognitive decline, uncomfortable feelings of coldness in her left toes and complaints about gait problems. On admission, neurological examination was normal except for gait difficulties because of the shortened left leg and the behaviour

syndrome described later in the article. Brain imaging (fig 1) showed a tumorous lesion located in the right hippocampus and extending to the medial regions of the right temporal gyrus and to the right temporal horn and parietal region.

The patient was fully oriented. Her language was characterised by a heightened flow and a theatrical way of intonation. Her remote memory was intact, but her verbal and figural learning and recall were poor. No apraxia, personal or extrapersonal neglect or visual agnosia was noted, except for a mild topographagnosia. Executive functions were impaired, and she displayed a maniforme behaviour syndrome with frequent mood switches, moria and hyperverbality. Most impressive was her talking to her left leg as to another person; she was calling it names, cursing it and sometimes even beating it (fig 1; video clip is available online at <http://jnnp.bmjjournals.com/supplemental>). She addressed her right leg as her friend and the left as her enemy and repeatedly expressed her wish to get rid of this “bugger”—that is, her left leg. According to relatives, all symptoms became evident only a few weeks before admission.

The tumour was resected, and histological examination showed a gliosarcoma that was a World Health Organization grade IV type. An initial left motor hemisindrome, more dominant in the upper extremity, was rapidly improving. An examination 3 days after the operation showed a left-sided homonymous hemianopia and severe visual neglect. The patient was repeatedly found crying and having fights with her left leg, which showed bruises. She said she would feel happier if her left leg “were just dead”. Five days later, her cognitive deficits were unchanged. A change was seen, however, in the verbalisations directed to her left leg—that is, she would at times embrace and caress it and talk to it in an overly friendly way. She said that her left leg and herself “belonged together” and, on being questioned, denied any previous disputes or self-injurious behaviour. But only minutes after having called her left leg her “best companion”, she would curse it as her enemy again. In fact, an ongoing switching between caressing and physically expressed hatred towards her left leg was observed. Signs of anosognosia were observed. For instance, despite the fact that she was confined to a wheelchair, she claimed that she could run.

The patient was discharged 9 days after the operation. She refused radiotherapy. Her state deteriorated rapidly and she died 6 weeks after surgery. No autopsy examination was carried out.

Discussion

Although this case shares major features in common with previously published cases, it is in striking contrast with respect to one accompanying symptom, at least tacitly considered to be an almost defining feature of misoplegia: the absence, in our patient, of hemiplegia, or even of any marked sensory or motor impairments due to the central lesion. Aetiological differences (space-occupying lesion in our patient v acute vascular incidence in all previous cases) would probably not account for the occurrence of misoplegia without hemiplegia. We suggest that the premorbid history of our patient should be taken into consideration. Critchley² had argued that certain premorbid personality traits may predetermine a person's failure to cope with a sudden change in bodily functioning. Specifically, he contended that “such an individual has perhaps always been an obsessional and a candidate for hypochondriacal trends by reason of an innate preoccupation with bodily efficiency and physical fitness” (p 86). In contrast with Critchley, we do not consider premorbid personality to be a key element in our patient. It would rather seem that the physical and minor functional impairments of our patient's left leg from early childhood on may have produced an imbalance in the body image of the left leg as compared with the right leg. Even if entirely compensated during most of her life, this imbalance may have made her left leg the target of negative emotions, which were released only by a brain tumour. Obviously, this lesion markedly affected the patient's inhibitory control of affective impulses. The case presented here may thus redirect Critchley's idea of a premorbid personality influence to more recent accounts of misoplegia^{4,5} in terms of a dysfunctional system of emotion regulation—that is, a release of repressed negative feelings about a premorbidly affected body part. Why some patients are inclined to deny or play down paralysis or to reject the presence or ownership of a dysfunctional limb, whereas others develop an overly hostile or, conversely, an overly caring⁶ attitude towards the affected limbs, remains an unresolved issue.

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Figure 1 Preoperative MRI of the patient (leftmost); the patient calling her left leg names and striking it hard (video is available online at <http://jnnp.bmjjournals.com/supplemental>). Informed consent was obtained for publication of this figure.