Persistent Genital Arousal Disorder as an Atypical Presenting Symptom of Central Nervous System Demyelinating Disorder

Sir,

We report a 24-year-old previously healthy woman with resistant, sudden sexual arousal episodes and tingling sensations in her legs. Her past medical and family history were unsignificant; she had no history suggestive of genitourinary, endocrinological, or psychiatric problems. She did not use any medications currently, nor did she stop any medications recently, including antidepressants. Her neurological examination was significant only for left-sided hyperactive deep tendon reflexes, Achilles clonus, and occasional urinary incontinence with coughing.

The laboratory tests, including a complete blood count, liver and kidney function tests, electrolytes including magnesium and calcium, vitamins including B12, and iron levels, were at normal levels. The MRI of the brain and spinal cord revealed multiple non-contrast-enhancing demyelinating plaques at bilateral periventricular, juxtacortical regions, and C3, C4, and C6 cervical levels, all shorter than the height of one vertebra.

Other lab tests, including anti-nuclear antibodies and an extractable nuclear antigen panel for connective tissue disorders, anti-neutrophil cytoplasmic antibodies for vasculitides, autoimmune encephalitis antibodies for limbic encephalitis, an ACE level for sarcoidosis, and an infectious panel including hepatitis, HIV, Borrelia, and Brucella, were negative. An electroencephalographic study was ordered for possible epileptiform activity, and it resulted in normal results as well.

The patient was referred to multiple sclerosis (MS) for differential diagnosis of MS and for further investigations of her demyelinating lesions.

Persistent genital arousal disorder (PGAD) is an unremitting, unprovoked state of physiological genital arousal that cannot be relieved by orgasms.[1] Little is known about the pathophysiology of it, and although most of the cases are idiopathic in origin, there are a few associated disorders such as restless leg syndrome, brain tumors, epileptic activity, blood dyscrasias, pelvic varices, antidepressant use or withdrawal, a few psychological conditions, and sensory polyneuropathy.[2-6]

MS and other similar chronic autoimmune inflammatory demyelinating disorders of the central nervous system (CNS) are classically present with motor, sensory, cerebellar, vestibular, optic, or brainstem findings.[7] Although sexual dysfunction may be seen in CNS demyelinating inflammatory disorders, only two other cases of PGAD as a potential symptom of MS were found in the literature.[8,9]

CNS regions related to arousal and sexual motivation include the amygdala, middle cingulate cortex, posterior insula, nucleus accumbens, medullary and pontine reticular formation, hypothalamus, orbitofrontal cortex, and superior parietal lobes.[5] Any disturbances in the networks of these regions and lesions affecting the sacral sensory networks, which transmit sexual arousal, could affect sexual motivation.[4]

In the literature, there were only two other cases of CNS demyelinating lesions associated with PGAD, and to our knowledge, this is the first case of a demyelinating disorder presenting with PGAD. Our case highlights that the neurological examination should precede any psychological diagnosis, and CNS demyelinating disorders should come into mind, especially in the young female population, if upper motor neuron signs are subsequently present.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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