

# Neurocysticercosis presenting with hypersexuality

Vidya Dev Sharma\*

Abdul Khalid\*\*

## Abstract

**Neurological disorders can produce paraphilic behaviour and alterations in sexual drive. Lesions of the temporal lobe have been classically associated with sexual disorders. We are reporting a 20-year old girl who presented with marked hypersexuality for five years and had history of generalized tonic-clonic seizures about seven years back. EEG record showed localised spike discharges with phase reversal in the leads corresponding to left parietal lobe. MRI scan revealed calcifications with no perifocal oedema in both parietal lobes and right occipital lobe, suggestive of healed neurocysticercosis. The patient showed significant improvement with carbamazepine.**

*Keywords: Hypersexuality; neurocysticercosis; epilepsy.*

## Introduction

Neurological disorders can produce paraphilic behaviour and alterations in sexual drive. Markedly diminished libido occurs with temporal lobe epilepsy, hypothalamic lesions and right hemisphere brain injuries.<sup>1</sup> Heightened sexual drive can occur in secondary mania, in the postictal period after a seizure<sup>2</sup>, after markedly improved seizure control in patients with

epilepsy (for example after temporal lobectomy or with improved anticonvulsant control of seizures), after the introduction of levodopa or other dopaminergic agents in Parkinson's disease, with diencephalic or frontal lobe lesions, with septal injury<sup>3</sup>, in Multiple sclerosis<sup>4</sup>, in Kleine-Levin syndrome<sup>5</sup> and in Kluver-Bucy syndrome.<sup>6</sup> Hypersexuality has also been induced by amphetamines, cocaine, hyperthyroidism and androgen administration.<sup>7</sup>

We are reporting an interesting case of neurocysticercosis with calcified lesions in both parietal lobes and right occipital lobe who presented with marked hypersexuality.

## Case Report

Ms. A, a 20-year old girl, working as a school teacher, presented with complaints of excessive sexual desire for the last 5 years. Her problem started at the age of 15 when she started having strong urges to have sexual intercourse. She would get sexually aroused just by mere presence of a male, even a stranger. She even used to become aroused in company of her father or brother when she would feel disgusted with herself. She preferred traveling in crowded buses where she would stand close to males and, taking it as a cue, if someone fondled her she would not resist.

She developed sexual relationship with a boy with whom she would have sexual intercourse many times a day but still craved for more. Though she indulged in varieties of sexual acts including fellatio to please her partner, she would only get satisfaction after vaginal penetration. The boy broke away because he could not cope with her demands. She divulged that she had sexual relationship with only this boy.

Describing her problem she said that in presence of any male, irrespective of age and relationship, she would get sexually aroused and started having vaginal lubrication. Sometimes it would end in an orgasm whilst at other times she would go to a secluded place to masturbate. Masturbation had been her only way of relief after the relationship with the boy ended. She felt that her sexual urges were unwanted and her desires were abnormal and made attempts to resist them but failed in controlling her sexual arousal.

The patient has had multiple episodes of generalized tonic-clonic convulsions about seven years back. She was diagnosed as a case of seizure disorder but her EEG was normal at that time. She received tablet phenobarbitone 120 mg. per day which controlled her seizures and the medication was continued for three years and then tapered off. There was a positive family history of epilepsy in a brother and a sister.

Routine investigations including thyroid function tests were within normal limits and HBSAg and HIV Elisa were non-reactive. EEG record showed localised spike discharges with phase reversal in the leads corresponding to left parietal lobe. MRI scan was done and it revealed four areas of localised calcifications (two in white matter of right parietal lobe and one each in white matter of left parietal lobe and posterior part of right occipital lobe) measuring 0.6-0.8 cm in diameter and with no perifocal oedema. The radiologist concluded that the calcifications were healed neurocysticercosis lesions. The patient was advised tab. carbamazepine with gradual dosage increment reaching to 1000 mg./day. Within a week of treatment, the patient reported better control on her

sexual urges and after a month she felt that she developed adequate control and regained normal social and occupational functioning.

## Discussion.

Sexual disorders appear to have been associated with pathology in temporal lobe only. Several reports stress the frequency of sexual disturbances in patients with temporal lobe epilepsy. Hyposexuality has emerged as the commonest abnormality, with perversions of sexual interest and outlet occurring in a much smaller number.<sup>1</sup> Seizures arising from the medial surface and superior border of the hemisphere show several interesting features.<sup>8</sup> Erickson reported a woman, who for sixteen years, had suffered attacks of feeling 'hot all over' as if she were having coitus, associated with a marked increase of libido.<sup>9</sup> Although the feeling in the genitalia was a pleasurable sensation, resembling ordinary intercourse, it was limited to the contralateral side of the vagina. Nevertheless she had twice been hospitalized with a diagnosis of nymphomania. Later the sensory experience was followed by Jacksonian seizures and finally by progressive paraplegia. A haemangioma was ultimately removed from the upper end of the Rolandic sulcus on the medial surface of the hemisphere, with prompt cessation of the sexual disturbance.

Hypersexuality as such has not been reported in neurocysticercosis but a case of transvestism was reported by Davies and Morganstern.<sup>10</sup> A 36-year patient who had developed grand mal epilepsy twelve years ago, was proved to be suffering due to cerebral cysticercosis. For seven years the auras to attacks had included features typical of temporal lobe epilepsy, and for some 3 years had consisted of epigastric and jaw sensations. The epigastric auras were followed by a desire to transvest. Initially this was exclusively in relation to the epigastric and jaw sensations, but for two years the desire to transvest had increased and become independent of any epileptic phenomena.

The mechanisms which may underlie the association of such abnormal sexual behaviour with neurocysticercosis are far from clear. However, it would be worthwhile to do neuroimaging in all cases if deviant sexual behaviour before labeling them as functional sexual disorders.

## References

1. Lishman WA. Organic Psychiatry: The Psychological Consequences of Cerebral disorder, 2nd ed. Delhi: Oxford University Press, 1987.
2. Blumer D. Hypersexual episodes in temporal lobe epilepsy. *Am J Psychiatry* 1970; **126**: 1099-1106.
3. Miller B, Cummings JL, McIntyre L, et al. Hypersexuality of altered sexual preferences following brain injury. *J Neurol Neurosurg Psychiatr* 1986; **49**: 867-873.
4. Huws R, Shubsachs APW & Taylor PJ. Hypersexuality, fetishism and multiple sclerosis. *Brit J Psychiatry* 1991; 280-281.
5. Wurthmann C and Klieser E. Kleine-Levin syndrome. *Fortschr Neurol Psychiatr* 1991; **59** (9): 371-375.
6. Goscinski I, Kwiatkowski S, Polak J, Orłowiejska M. The Kluver-Bucy syndrome. *Acta Neurochir Wien* 1997; **139** (4): 303-306.
7. Cummings JL. Neuropsychiatry: Clinical assessment and approach to diagnosis. In: Comprehensive Textbook of Psychiatry, 6th ed, Baltimore: Williams & Wilkins, 1995: 167-186.
8. Kennedy WA. Clinical and electroencephalographic aspects of epileptogenic lesions of the medial surface and superior border of the cerebral hemisphere. *Brain* 1959; **82**: 147-161.
9. Erickson TC. Erotomania (nymphomania) as an expression of cortical epileptiform discharge.