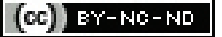


Epileptiform Discharges Presenting as Isolated Episodes of Semen Emission: A Case Report

ANKIT HALDER¹, ADITYA S NAIR²

ABSTRACT

Epilepsy is a multifaceted disorder, whose presentation varies from person to person. Semen leakage is observed in instances such as nocturnal emission (nightfall), prostatitis, nerve injury, side-effects of medications, and sexual arousal. The emission of semen as a manifestation of epilepsy is rare. The authors present the case of a 28-year-old male, married for the past two years, with complaints of involuntary passage of semen in sleep which began one month back. The frequency was 3-4 times a week. Following this event, the patient observed that he had a splitting headache that was generalised in nature which would persist for the next few hours and would not even subside after taking a painkiller like paracetamol. An Electroencephalogram (EEG) was advised, showing generalised slowing with increased frequency of delta waves, which were suspected to be characterising post-epileptic changes. The patient was started on Tab Lamotrigine 25 once at night, which was eventually up-titrated to 105 mg per day on a divided dosage. The patient is well maintained now for three months on this medication and no repeat episode of involuntary seminal discharge has occurred. So, while encountering such a presentation a diagnosis of underlying seizure activity should be kept in mind.

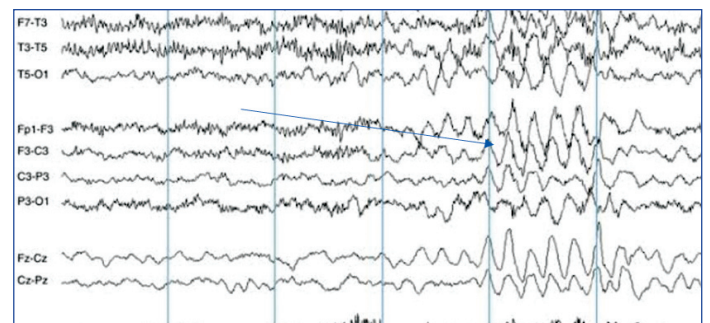
Keywords: Nightfall, Semen leakage, Sexual arousal

CASE REPORT

A 28-year-old male, married for the past two years, working as a Life Insurance Corporation agent came to the hospital with complaints of involuntary passage of semen in sleep, which began one month back. The patient had no psychiatric complaints before the onset of the aforementioned symptom. While sleeping during the afternoon and night, the patient observed there was emission of semen. The frequency was 3-4 times a week. Following this event, the patient observed that he had a splitting headache that was generalised in nature which would persist for the next few hours and would not even subside after taking a painkiller like paracetamol. Relatives observed that he had become very angry and irritable for the past one month. He would burst out yelling at them even over trivial issues, and responses to the situations were way out of proportion. When things did not go according to his wishes, he would become indignant and it would be difficult to pacify him. The patient's sexual history revealed regular sexual intercourse two times a week. The patient began masturbating at the age of 16 years. He used to masturbate three times a month, which increased to five times a month over the next few years. Post-marriage the frequency was reduced to once a month. The patient had no other problems like pain in the genitals or urinary hesitancy. All the blood investigations were within normal limits that included Complete Blood Count (CBC), Random Blood Sugar (RBS), thyroid profile, Liver Function Test (LFT), and Renal Function Test (RFT).

An Electroencephalogram (EEG) was advised within two hours of the seminal discharge event which the patient did after five hours. Magnetic Resonance Imaging (MRI) was not suggested owing to the absence of any focal or generalised positive neurological findings as well as the absence of symptoms of increased intracranial pressure like vomiting, excruciating headache etc. The EEG showed generalised slowing with increased frequency of delta waves which were suspected to be characterising post epileptic changes [Table/Fig-1]. The patient was started on Tab Lamotrigine 25 once at night, which was eventually up-titrated to 105 mg per day on a divided dosage. The patient is well maintained now for three months on this

medication and no repeat episode of involuntary seminal discharge has occurred.



[Table/Fig-1]: EEG showing post-epileptic changes.

DISCUSSION

Epilepsy is a multifaceted disorder, whose presentation varies from person to person. The frequent symptoms of epilepsy include dizziness, aura, amnesia, staring spells, confusion, and urinary and/or stool incontinence amongst others [1]. Epilepsy is commonly associated with behavioural symptoms such as attention deficit, aggression, panic attacks, and increased motor activity [2]. Semen leakage is observed in instances such as nocturnal emission (nightfall), prostatitis, nerve injury, side-effects of medications, and sexual arousal [3]. Emission of semen as a manifestation of epilepsy is rare.

There are many established literature relating genital events to the seizure phenomenon among which spontaneous passage of urine is frequently associated with epileptic events [4,5]. It has been reported that urinary incontinence occurs at the end of clonic phases of tonic-clonic generalised seizures when sphincter muscles are relaxed [6,7].

Now in the light of our case, seminal emission is hardly reported in the literature in such context. We could find only one study done on Wistar rats where such a phenomenon was found to occur [8]. The penile erection was evoked by stimulation of many areas in

the brain, including the gyrus rectus, the septo-preoptic-anterior hypothalamic region, the paraventricular nucleus, the medial forebrain bundle, the mammillary body, and various structures in the medial thalamus [9]. Discharge of semen occurs after stimulation in the thalamus and the vicinity of the spinothalamic tract [8]. Studies indicated the occurrence of seminal discharge in rhesus monkeys (*Macaca mulatta*) and rats after stimulation of the preoptic region and medial forebrain bundle [10,11].

In the present case, EEG was done five hours following the event which showed generalised slowing with predominantly delta waves. As the type of seizure the authors suspected in the case was focal in nature. Here, it was very difficult to differentiate ictal from post ictal state through EEG [12]. As the postictal changes are visible at least 120 minutes following the seizure event, we suspected this electroencephalographic slowing as post-epileptic in nature [12]. As the EEG could not be done immediately following the event, the exact origin of the discharges could not be pointed precisely. In another report by Zhang L et al., there were episodes of such seminal discharges, but it was secondary to established evidence of temporal lobe epilepsy on EEG [13]. Headache and irritability are also known to occur leading to ictal events or following the same which prompted us to keep the diagnosis in mind though there were no generalised tonic clonic events or other stamping features of temporal lobe epilepsy.

Though alterations in the serotonergic system have been suggested as the mechanism behind spermatorrhea, the exact mechanism is still not established [13,14]. Sexuality and epilepsy are intriguingly intertwined with each other in many aspects with various possible explanations but the exact mechanism is still elusive, which makes the presentation in the present case unique and challenging.

CONCLUSION(S)

Despite literature showing a plethora of manifestations of epilepsy, such an atypical presentation is unique. So, while encountering such a presentation, a diagnosis of underlying seizure activity should be kept in mind. Further studies on this topic could help us identify seizures more efficiently in the future.

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