

## Semeiology of non-epileptic seizures in Singapore patients

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**Background and Objective:** Diagnosing non-epileptic seizures remains a constant challenge even for experienced clinicians.<sup>1-4</sup> Public perception of seizures may be influenced by sociocultural, racial and even religious beliefs. These may surface in the clinical presentation of non-epileptic seizures. The purpose of the study was to investigate the semeiology of non-epileptic seizures in Singapore patients seen at a tertiary hospital.

**Methods:** A 10-year retrospective review of all video-EEG recordings in Singapore General Hospital was undertaken. These were performed on 32 channel Telefactor beehive/beekeeper, XLtek and Compumedics video-EEG systems. Video clinical semeiology was analysed independent of corresponding EEG and the latter subsequently reviewed for the absence of ictal EEG pattern.

**Results:** Thirty-six of 441 patients (8%) monitored between June 1993 and April 2004 had non-epileptic seizures. There were 27 females and 9 males with a mean age of 32 years (15-49). Racial distribution was 58% Chinese, 22% Indian, 11% Malay, 8% Others. They had a total of 72 non-epileptic seizures (mean 2.0; range 1-6 per patient). Semeiology was stereotypic in all patients with multiple seizures. Mean seizure duration was 8.5 minutes. Six patients (17%) had concomitant epileptic seizures of different semeiology, while another 2 (6%) had interictal discharges.

The predominant feature of the non-epileptic seizures was generalized motor manifestation (42% of patients), total unresponsiveness (33%), focal motor (19%) and aura (6%). Seventy eight percent of patients had motor manifestations while only 22% reported an aura. Ninety one percent of patients with repetitive motor movements demonstrated varying frequency and amplitude of movements while 59% showed asynchronous movements. Fifty-seven percent of patients with motor features showed asymmetry. Side-to-side and/or nodding head movements were seen in 47% patients while abdominal/truncal thrusting was noted in 31% patients. Twenty-eight percent of patients repeated their seizures in cycles. Forty-one percent with generalized motor or total unresponsiveness still retained volition (verbal/non-verbal response in generalized motor seizure patients; avoidance of falling arm, resistance of forced eye opening in generalized “unresponsive” patients). None of the patients had generalized unresponsiveness as the only feature; 70% of these patients still demonstrated some motor movements, while 35% also reported an aura. Eye-closure was noted in 78% of patients with generalized motor features or total unresponsiveness. Vocalization, mainly moaning was seen in 11% patients.

**Discussion and Conclusion:** The predominant feature of non-epileptic seizures in our patients is generalized motor followed by total unresponsiveness. Over 90% of patients with repetitive motor manifestation had varying frequency and amplitude of motor movements while more than half demonstrated asymmetry, and asynchronicity. Classically described features of side-to-side head shaking, abdominal/truncal thrusting and retention of volition in generalized seizure presentation were seen in over a third of our patients. Eye closure was also noted in more than three quarters of patients with generalized seizure presentation. Limited cohort size did not allow significant correlation between non-epileptic seizure semeiology and patient race or religion.

### References

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