Short Article

The dilemma of seizure and pseudo seizures

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Seizures are abnormal CNS function presumably caused by "Seizure" discharges from cerebral neurones. Pseudo seizures are episodic abnormal behaviour, which are determined motivationally. In many circumstances the distinction is subtle and may be difficult. Since prognosis treatment and disposal of such cases is different the initial medical investigation, usually by the squadron medical officer, plays a pivotal role. He or she must be well versed with the distinctive features of pseudo seizures. Salient features of pseudo seizures are described which may be useful in evaluation.

Pseudo seizures are of two types [1]. When the motivation for abnormal behaviour is conscious and purposeful they are called malingering and when the pseudo seizures are motivated subconsciously the condition is hysteria caused by failure of ego-coping mechanisms.

Manifestation of pseudo seizures

The most common manifestation of pseudo seizures is motor. There is motor posturing, tremulousness, violent bizarre shaking, jerking, kicking, grimacing, thrusting and rhythmic coordinated movement. Tonic posturing may closely mimic epileptic activity and may be bilateral. In all these movements careful observation would reveal that the patient observes the environment and interacts with it, however, responses to verbal stimuli may be impaired. The individual may have non-specific complaints and show semi purposeful activity. Hyperventilation or breath holding may be present, verbalisation suggesting distress may be reported. Discrete and meticulous note should be made of the setting, which is neutral in case of seizures, where as it is emotionally charged in pseudo seizures. Stereotypy is the hallmark of epileptic attacks whereas pseudo seizures vary from attack to attack. Seizures appear and disappear slowly and leave the patient dazed at least for some time whereas after a pseudo seizure the individual is alert and absolutely normal. Pseudo seizures never appear in sleep and usually result in no injury or cause incontinence of urine and stool. Secondary gains are usually evident in pseudo seizures but may need detailed history taking for elicitation. In contrast to the bizarre presentation of pseudoseizures the clinical picture of seizures follows a distinctive pattern depending upon the type of seizure. The current classification of epilepsy is shown in the table below.

Laboratory studies that may help are routine metabolic profile. Drug and toxic profile may

unravel unknown disorders. Psychiatric and neurologic examination are mandatory. CT scan of the head would help in detection of a structural lesion. Videotelemetry and simultaneous EEG monitoring would help in a definitive way but is available only in a few centres in our country. In its absence, repeated and sleep EEG during an attack or soon after it, would rule out seizure disorder. Seizure disorders traversing the limbic structures in the brain cause a rise in serum prolactin. This does not happen in case of motor manifestation of pseudo seizures. Levels of prolactin estimated soon after a seizure would show a rise [2]. Serum prolacin is assayed in all major cities in endocrinology laboratories.

References

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2. A.K. Roy, Singh B et al, Circulating prolactin and cortisol levels in diagnosis of pseudoseizures. Ind J. Aerospace Med 1993, 37, 2:6-8.

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Epilepsy - classification [3]

1. *Partial Seizures:* Seizures which start by activation of a group of neurones, limited to one part of one hemisphere.

   (a) Simple, without impairment of consciousness: Depending upon the anatomical site of origin of seizure discharge, initial symptoms may be motor, sensory, aphasic, cognitive, affective, illusion, olfactory, psychic. Synonyms: Jacksonian, Temporal lobe, psychomotor seizure (according to type)

   (b) Complex partial with impairment of consciousness.

   (i) Simple partial onset, with impairment of consciouness.

   (ii) Impairment of consciousness at onset. Symptoms same as in simple above.

   (iii) Partial seizures, either simple or complex, evolving to generalised tonic clonic seizures.

2. *Generalized seizures*

   (a) Absence seizures

   (i) *Typical absences:* abrupt onset and cessation of impairment of consciousness with or without automatisms, myoclonic jerks, tonic or autonomic components. A 3 Hz spike and wave discharge is the usual EEG abnormality for this diagnosis

   (ii) *Atypical absences:* Changes less abrupt, more prolonged and EEG abnormality other than 3 Hz spike and wave discharge.

   (b) Myoclonic seizures
   (c) Clonic seizures
   (d) Tonic seizures
   (e) Tonic-clonic seizures
   (f) Atonic seizures.

3. *Unclassified seizures* - as yet unidentified.