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**RESEARCH ARTICLE**

**NOCTURNAL SEIZURES SECONDARY TO RIGHT FRONTAL CYSTICERCAL GRANULOMA  
MASQUERADING AS RECURRENT SHOULDER DISLOCATION: A CASE REPORT**

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**ABSTRACT**

We report a case of young adult male who presented with two episodes of shoulder dislocation during sleep. After the second episode the possibility of nocturnal seizure was considered. On evaluation he was found to have a lateral tongue bite and magnetic resonance imaging of the brain showed a right frontal cysticercal granuloma.

**Key words:**

Nocturnal Frontal Lobe Seizures,  
Cysticercal Granuloma,  
Recurrent Shoulder Dislocation.

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**INTRODUCTION**

Recurrent unprovoked nocturnal shoulder dislocation may be of epileptic origin. Nocturnal seizures commonly arise from frontal lobes and may be primary (idiopathic) or secondary. Absence of any lesion on neuroimaging and the presence of a family history of nocturnal seizure may give clue to the genetic basis of the seizures. We report a case of nocturnal frontal lobe seizure secondary to cysticercal granuloma presenting as recurrent unprovoked shoulder dislocation.

**Case History**

27- year old young man was brought to emergency department in the night for bilateral shoulder pain. He was apparently normal when he went to sleep, but woke up at around 2.00 AM, because of severe pain and swelling in both shoulder region, which was more severe on the right side. There was no history of fall or injury to the shoulder. Around 6 years back he had a similar episode during sleep, when he had woken up with pain and swelling in the left shoulder. He was diagnosed to have left shoulder dislocation and was treated for the same. He was apparently normal for the past 6 years and had an unremarkable past and family history.

He was moderately built and nourished and had normal findings on general and systemic examination, except for a swollen right shoulder joint with painful restriction of movements (Fig 1). His neurological examination was unremarkable. He was evaluated by the orthopaedician and an X-ray of both shoulder regions was asked for. X-ray revealed posterior dislocation of the shoulder on both sides and an associated humeral head fracture on the right side. A reduction of bilateral dislocated shoulders was carried out. In view of recurrent shoulder dislocation during sleep a possibility of convulsions was considered and a neurological opinion was sought. He was found to have a bite mark on the right lateral aspect of the tongue. He was further investigated with an MRI scan of the brain with gadolinium contrast and was found to have right frontal cysticercal granuloma. Interictal electroencephalogram and CSF analysis were normal. Routine hematological and biochemical investigations, chest X-ray and Mantoux test were within normal limits. He was started on oxcarbazepine for seizures and albendazole for the cysticercal infection and was advised regular follow up.

**DISCUSSION**

This young man presented with recurrent shoulder dislocation in sleep, the cause of which was not clear initially. The clinical diagnosis of nocturnal seizure was confirmed when the bite mark on the lateral aspect of tongue was detected. As the two attacks of seizure happened only during the sleep a clinical diagnosis of frontal lobe seizures was considered initially.

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**Figure 1. Swollen Right shoulder with painful restriction of movements**

MRI scan of the brain revealed the presence of cysticercal granuloma in the right frontal lobe, which could have been the cause of frontal lobe seizures. This case is reported as it teaches some important clinical lessons. Nocturnal seizures are difficult to diagnose and characterize, as they are less likely to be directly witnessed than daytime seizures (Bazil, 2004) and hence an extensive search for tell tale signs of convulsion should be made. Presence of tongue bite on the lateral aspect is an important sign of convulsion and should be diligently looked for in every case of suspected seizure. In a study by

Benbadis et al it was found that tongue biting had a sensitivity of 24% and a specificity of 99% for the diagnosis of generalized tonic-clonic seizures and lateral tongue biting was 100% specific to grand mal seizures (Benbadis, 1995). The mechanisms whereby sleep facilitates seizures are not fully known although the synchronizing role of thalamocortical networks seems contributory (Malow, 2005). Frontal lobe seizures can have varied manifestations and are more likely to be nocturnal than temporal lobe seizures (Bernasconi et al., 1998). Nocturnal seizures can rarely present as recurrent shoulder dislocation as exemplified by this case. Nocturnal seizures are more likely to be of frontal lobe origin and in every case of suspected frontal lobe seizures neuroimaging should be done to rule out secondary causes before presuming a genetic basis.

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