ISSN: 0975-8585

Research Journal of Pharmaceutical, Biological and Chemical Sciences

# Rare Drug Reaction in a Neurocysticercosis Patient.

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**ABSTRACT**

Cysticercosis, caused by Taenia solium (T.solium) larva and is a major public health problem, especially in the developing world. Neurocysticercosis (NCC) is considered to be the most common parasitic infestation of the central nervous system (CNS). NCC is considered as the single most common cause of community acquired active epilepsy. Levetiracetam (LEV) is a novel antiepileptic drug discovered in 1980s and 1999 FDA approved it for the management of partial onset seizure. In India, it was approved in April 2005. The chemical name of LEV, a single enantiomer, is (s)-alphaethyl-2-oxo-1-pyrrolidine acetamide). In this paper, we report a 57-year-old female patient with a rare adverse drug reaction in a patient under levetiracetam

**Keywords:** Neurocysticercosis, Levetiracetam, Adverse drug rection

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ISSN: 0975-8585

## INTRODUCTION

Cysticercosis is common in communities where pigs are allowed to roam freely, the residents consume undercooked pork and the basic sanitary facilities are lacking [1].

Three quarters of the estimated 50 million people with epilepsy live in the poor countries of the world and of this untreated cases are up to 94% [2].

Human is the only definitive host of T. solium harbouring adult tapeworm in the intestine, where as both man and pig can act as intermediate hosts and harbour the larvae in different internal organs (cysticercosis) including brain (NCC). Human and pig both acquire cysticercosis through ingestion of eggs excreted in faeces by human who is a carrier of T. solium. T. solium infection is also increasingly diagnosed in affluent countries owing tohuman migration from endemic areas [3].

In this paper, we report a 57-year-old female patient with a rare adverse drug reaction in a patient under levetiracetam

**Case History**

A 57-year-old female patient reported to our dental OP with a chief complaint of painful gums since three months. She gave a history of epilepsy with the first attack one year back. Her medical records revealed that she had neurocysticercosis.

She was under Levetiracetam since one year. Following which she developed burning sensation of her mouth that was aggravated on consuming and spicy foods. Intraoral examination revealed erythematous gingiva (Figure 1). White radiating striae with areas of hyperpigmentation was evident on right and left buccal mucosa (Figure 2 and 3).

She had magnetic resonance imaging (MRI) done for the same which revealed presence of focal lesion which measured 7.0 X 4.0 mm in left post central gyrus which was hypointense on T2 WI and showed ring enhancement on post contrast images (Figure 4).

Based on the findings the case was diagnosed as lichenoid drug reaction due to levetiracetam

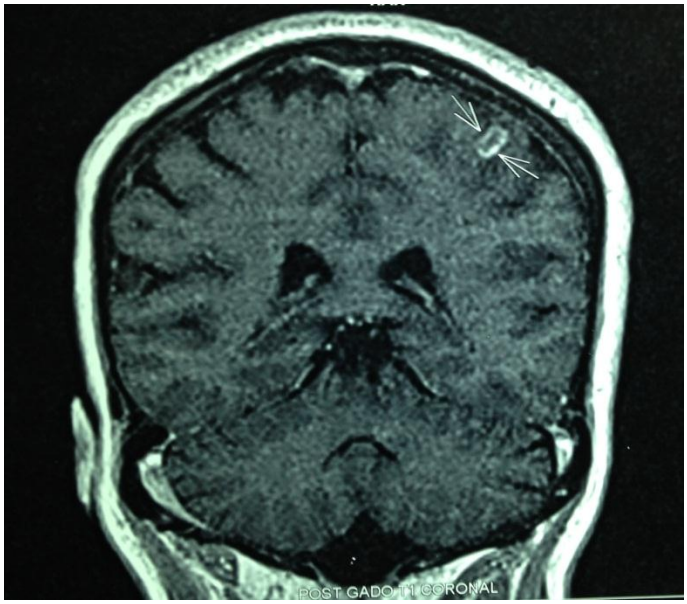
**Figure 1: Generealised erythematous gingiva**

ISSN: 0975-8585

**Figure 2: White radiating striae with hyperpigmentation areas on right buccal mucosa**

**Figure 3: White radiating striae with hyperpigmentation areas on left buccal mucosa**

**Figure 4: MRI revealed presence of focal lesion in left post central gyrus**



ISSN: 0975-8585

## DISCUSSION

Cysticercosis was first described in pigs by Aristophanes and Aristotle in 3rd century BC. Latter it was noticed in human by Parunoli in 1550.

The manifestations of NCC are polymorphic; no symptom or sign is specific. Acute symptomatic seizures are the most common manifestation of human NCC; the other clinical conditions include headache, chronic meningitis, dementia, hydrocephalus, focal neurological deficits, psychological disorders, ocular and spinal cysts [4].

In patients with extra parenchymal NCC the most common clinical symptoms and signs is hydrocephalus. The clinical presentation also varies with the stages and number of cyst. Sometimes NCC remains in the brainwithout causing any apparent symptoms; this form is called as asymptomatic NCC [5].

LEV acts by binding to the synaptic vesicle protein SV2A, which is present on synaptic vesicles and some neuroendocrine cells.

Common side effects include somnolence, dizziness, and weakness. Less frequently, nausea, anorexia, myalgia, diarrhoea, dyspepsia, weight gain or loss, ataxia, headache, depression, insomnia, amnesia, emotional lability, nervousness, tremor, diplopia, vertigo and rash may occur. LEV should be used with caution in patients with renal impairment, and/or severe hepatic impairment [6].

To conclude, NCC has diverse clinical manifestations and is the major cause of epilepsy worldwide. Treatment should be individualized based on the location, number of cysticerci and host response. Antiparasitic therapy is recommended in patients with active or multiple lesions, but not in calcified lesion. In certain cases, a short course of corticosteroid may help to minimize the host reaction against dying parasites. The seizures from NCC are generally easy to control and have similar prognosis to other structural brain lesions.

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