Palliative Care Rounds

Nonconvulsive Status Epilepticus in Terminally Ill Patients—A Diagnostic and Therapeutic Challenge

Stefan Lorenzl, MD, Simon Mayer, MD, Soheyl Noachtar, MD, and Gian Domenico Borasio, MD
Interdisciplinary Center for Palliative Medicine (S.L., S.M., G.D.B.) and Department of Neurology (S.N.), Munich University Hospital, Munich, Germany

Abstract
Nonconvulsive status epilepticus (NCSE) is rarely considered as a cause of confusion in terminally ill patients. The clinical presentation varies from altered mental status to coma, without visible convulsions. Electroencephalogram is the most important diagnostic tool to identify epileptiform activity. Treatment should be initiated following a stepwise model, avoiding intubation and transfer to the intensive care unit. Although mortality rates are high, in some patients NCSE can be reversed by treatment. NCSE should be considered in a differential diagnosis of all terminally ill patients with sudden mental status changes. We present two cases and discuss treatment options and the borders of therapy. J Pain Symptom Manage 2008;36:200–205. *© 2008 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.*

Key Words
Status epilepticus, NCSE, case reports, terminally ill, treatment, borders of therapy

Introduction

Epileptic seizures are typically brief and self-limited because of endogenous inhibitory mechanisms. In contrast, nonconvulsive status epilepticus (NCSE) is characterized by progressive sequential or simultaneous failure of these endogenous anticonvulsant barriers. It usually does not cease without therapeutic intervention. NCSE is a diagnostic and therapeutic challenge. Clinical symptoms may include only altered mental status or behavior without convulsive activity. The treatment options in a palliative care setting are limited, if admission to the intensive care unit is to be avoided.

There are many reasons for terminally ill patients to develop a status epilepticus. Besides primary brain tumors and brain metastases, metabolic changes may be the most common underlying reasons. NCSE has been reported in about 6% of patients with systemic cancer without evidence of central nervous system (CNS) involvement and in up to 20% of patients with primary brain tumors or metastases.[1]

Although epileptic seizures are common in patients with brain tumors or metastases, little

Address correspondence to: Stefan Lorenzl, MD, Interdisciplinary Center for Palliative Care, Klinikum Grosshadern, University of Munich, Marchioninistrasse 15, 81377 Munich, Germany. E-mail: Stefan.Lorenzl@med.uni-muenchen.de

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is known about the incidence and outcome of status epilepticus in patients on palliative care units. In this article, we describe two cases of NCSE in the palliative care setting, and review the clinical and diagnostic criteria as well as treatment options for terminally ill patients with NCSE.

Case Reports

Case 1

A 53-year-old patient with a multifocal astrocytoma was admitted to the palliative care unit because of progressive personality changes and mild aphasia with anomia. Focal epileptic seizures were known and he was already treated with lamotrigine. Three days after admission, the patient showed an acute confusional state, with sudden onset of global aphasia and tendency to leave the hospital. A computed tomography (CT) scan did not show any change and laboratory values were still in normal range. Therefore, NCSE was suspected and an electroencephalogram (EEG) was done, which showed a left temporal status pattern (Fig. 1). Initially, the seizure activity was successfully interrupted with intravenous (IV) lorazepam up to 4 mg. The patient was subsequently treated with lorazepam and levetiracetam orally, and NCSE ceased after one day of treatment. The patient could be discharged home and died at home four weeks later without recurrence of NCSE.

Case 2

A 52-year-old patient with renal carcinoma and brain metastases was admitted to the palliative care unit in a comatose state. One week previously, he had felt completely well and had been able to play tennis, before being found comatose in his apartment. He was first admitted to a nearby hospital where he had received cancer treatment previously. There was no history of seizures and he had not received antiepileptic drug treatment. A CT scan of the brain revealed progression of multifocal brain metastases. After one week, the patient was transferred without further electroencephalographic evaluation to our palliative care unit. On admission, NCSE was clinically suspected because of intermittent subtle tonic head and clonic eye movements (suggestive of epileptic nystagmus) and confirmed by EEG on the same day (Fig. 1). On treatment with IV lorazepam up to 6 mg, the patient regained consciousness intermittently. A three-day high-dose IV phenytoin treatment following IV phenytoin loading showed no additional effect. The medication was changed to valproic acid IV at 4 mg/kg/h, which again showed no further improvement despite therapeutic plasma levels and was discontinued. On the first day without treatment, the seizure activity

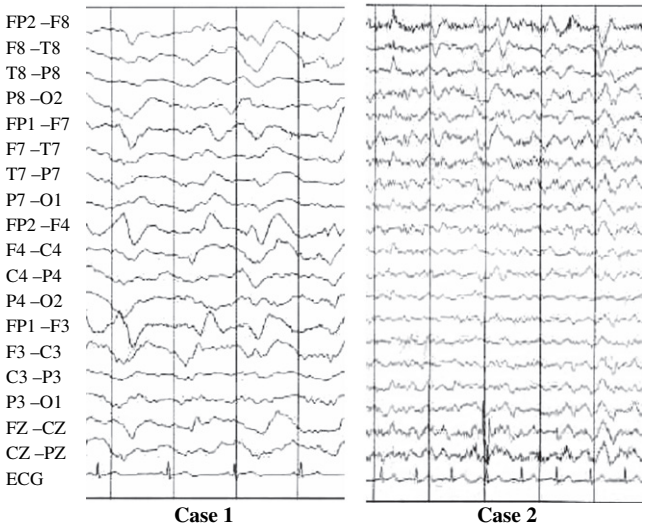

Fig. 1. Figure shows parts of the EEG of the two patients described in the case reports. In Case 1, frontal epileptic activity is seen, and in Case 2, left temporal spike wave complexes indicate seizure activity.

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