Case Report

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Eslicarbazepine use in Multiple Sclerosis with refractory Trigeminal Neuralgaia

Tarek A-Z K Gaber, Myint Myint Kyu and Wah Wah Oo

Abstract

When associated with Multiple Sclerosis (MS), Trigeminal Neuralgia (TN) is often bilateral and more refractory to treatment. Carbamazepine is the first line of treatment for TN, however, common side effects of carbamazepine such as hyponatremia occasionally limit its use.

We report the case of a 62 year old female patient with a well controlled MS associated TN using carbamazepine. This drug needed to be discontinued because of recurrent symptomatic hyponatremia. Several agents including topiramate, gabapentine and amitriptyline were tried but none had any beneficial effect on TN. A small dose of eslicarbazepine (400 mg daily) provided excellent control of the TN pain on one hand and did not affect the plasma sodium levels on the other hand.

Eslicarbazepine main advantage is providing the same effects of carbamazepine or oxcarbazepine but with an incidence of hyponatremia of less than 1%. It is much safer to use when the risk of hyponatremia is increased. To our knowledge, this is the first case that reports the use of eslicarbazepine in one of the several indications of carbamazepine such as pain and mental health problems. Eslicarbazepine use in epilepsy was reported extensively.

We feel that a therapeutic trial of eslicarbazepine is justified when either carbamazepine or oxcarbazepine have to be discontinued because of hyponatremia despite their efficacy.

KEYWORDS: Eslicarbazepine, Trigeminal Neuralgia, Multiple Sclerosis, hyponatremia

Trigeminal Neuralgia (TN) is relatively rare in Multiple Sclerosis (MS) affecting approximately 2% of patients[1]. The severity of the pain is indistinguishable whether TN is an isolated impairment or is associated with MS. However, when associated with MS, TN is often bilateral, affecting younger patients and is more refractory to medical treatment [2].

Several pharmacological agents are reported to be effective in TN associated with MS. Topiramate[3,4], gabapentin[5] and lamotrigine[6] were all reported to benefit patients with TN associated with MS in small uncontrolled trials. Several other drugs such as phenytoin, misoprostol and amitriptyline are routinely tried in patients with TN despite the lack of convincing evidence of their efficacy[7].

In 2008, Both the American Academy of Neurology and the European Federation of Neurological Societies launched joint Task Force general guidelines for the management of TN. After systematic review of the literature the Task Force came to a series of evidence-based recommendations [8]. Carbamazepine and oxcarbazepine had the strongest evidence of efficacy and were recommended as the first line treatment. An earlier Cochrane systematic review reached the same conclusion. [9].

Case report

A 62 year old female patient had been suffering from MS for about 20 years. The MS presented with trigeminal neuralgia from the outset and this was then followed by pyramidal lower limbs' weakness and sphincteric dysfunction. The patient started to use a wheelchair 10 years ago but she became totally wheelchair dependent about 6 years later.

Trigeminal neuralgia remained active throughout the 20 years. Carbamazepine (300 mg daily) provided the patient with a satisfactory control of TN. Despite having occasional break through TN pain; the patient declined having higher doses of carbamazepine as excessive sedation was an unacceptable side effect.

Recently; the patient was admitted to hospital in two separate occasions complaining of increasing malaise and confusion. Plasma sodium levels were found to be low in both occasions (first presentation 118 mmol/l and second admission 114 mmol/l). Clinical evaluation confirmed Syndrome of Anti Diuretic Hormone Secretion (SIADH) as the cause of the hyponatremia and in the absence of any other explanation for the SIADH; carbamazepine was thought to be the main reason and was duly discontinued.

Unfortunately, TN attacks came back with vengeance. During the following 6 months, therapeutic trials using gabapentine, topiramate and amitriptyline failed to show any beneficial effect on either the severity or the frequency of the TN attacks. All three drugs were duly discontinued.

The patient was started on eslicrbazepine 400 mg on a single daily dose. This dose lead to almost complete eradication of the TN attacks. The control of TN and the plasma sodium levels remained stable a year following the initiation of the therapy.

Comments

Hyponatremia, defined as a sodium level < 135 mmol/l is a common side effect of carbamazepine and oxcarbazepine

therapy. The incidence of hyponatremia secondary to carbamazepine therapy ranges between 4.8 and 40 % depending on the population studied[10,11]. In most cases, hyponatremia is asymptomatic and continuation of the carbamazepine use is possible whilst a close eye is kept on the plasma sodium level[10]. In rare occasions hyponatremia is symptomatic and discontinuation of carbamazepine is warranted. Administration of demeclocycline to normalise the sodium level was suggested by some authors.[12] However, the long term use of demeclocycline is associated with several complications and this approach is hardly a standard practice.

Clinicians often face a dilemma when carbamazepine is the only agent able to control a specific clinical problem. With many antiepileptics available, it is unusual to face such a problem in epileptic patients. Trigeminal neuralgia on the other hand can be extremely difficult to control and carbamazepine was found to have a unique ability to manage such unpleasant condition even before its antiepileptic effects were noticed on 1962[13].

Eslicarbazepine is promoted as an alternative to carbamazepine when side effects occurs on otherwise responsive patients to its favourable antiepileptic effects[14]. Hyponatremia is rare in eslacarbazepine users with only an incidence of less than 1% in the small populations studied[15,16]. Frequency of hyponatraemia increased with increasing eslicarbazepine dose. In patients with pre-existing renal disease leading to hyponatraemia, or in patients concomitantly treated with medicinal products which may themselves lead to hyponatraemia[17].

Our patient showed the same favourable response to eslicarbazepine as she experienced with carbamazepine. However, hyponatremia did not occur with eslicarbazepine therapy. This enabled our patient to continue with pharmacological management and avoid surgical interventions.

With the exception of epilepsy, no reports are available commenting on the use of eslicarbazepine on the wide range of conditions that carbamazepine is traditionally used for such as mental health problems and neuropathic pain. When patients are well controlled on carbamazepine whatever the indication is, the occurrence of side effects such as hyponatremia is often managed by an automatic replacement with another agent. We feel that in such patients a therapeutic trial of eslicarbazepine might be appropriate especially if the control on carbamazepine was robust or if the benefits of carbamazepine therapy were clearly superior to other pharmacological agents potentially useful for the targeted clinical condition.

Competing Interests

None declared

Author Details

TAREK A-Z K GABER, FRCP (London), Consultant in Neurological Rehabilitation, Wrightington, Wigan and Leigh NHS Foundation Trust, UK. MYINT MYINT KYU, MRCP, Specialist Registrar in Rehabilitation Medicine, North West of England Deanery, UK. WAH WAH OO, MRCP, Specialist Registrar in Rehabilitation Medicine, North West of England Deanery, UK. CORRESSPONDENCE: DR TAREK GABER, Consultant in Neurological Rehabilitation, Leigh Infirmary, Leigh, Lancs. WN7 3NF, UK.
Email: tgaber@doctors.net.uk

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