CASE

Treatment of vestibular paroxysmia with lacosamide

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PRACTICAL IMPLICATIONS

Consider lacosamide as a well-tolerated alternative to carbamazepine or oxcarbazepine for the treatment of vestibular paroxymia.

According to the current diagnostic criteria, vestibular paroxysmia (VP) is characterized by at least 10 attacks of spontaneous spinning or nonspinning vertigo with a duration of less than 1 minute, stereotyped phenomenology in a particular patient, and response to treatment with carbamazepine (CBZ)/oxcarbazepine (OXC).[1] A response to these drugs—which are thought to primarily block the use-dependent fast voltage-gated sodium channels—was reported in several observational studies[2,3] and 1 recent randomized controlled trial (RCT).[4] However, many patients cannot be treated with CBZ/OXC because of contraindications or their intolerance to the plethora of side effects, which leads to bad compliance and adherence; for instance, in the latter RCT, the dropout rate was 60%.

An alternative could be lacosamide because, on the one hand, its primary mode of action (a blocking of sodium channels) is thought to be similar to CBZ/OXC and, on the other hand, it has fewer contraindications and side effects than CBZ/OXC (see reference 5 for details). Therefore, we evaluated the effects of lacosamide on the frequency, severity, and duration of attacks of vertigo in patients with VP before and during treatment. The study was approved by the local ethics committee.

In a prospective observational case series, 7 patients (3 men, age range 40–78 years; table) who fulfilled the diagnostic criteria for VP (5 who had already responded to CBZ or OXC but did not tolerate these drugs very well) or probable VP[1] (2 who received lacosamide as their first treatment) were examined. The patients were asked about the frequency of attacks per month, the severity ("mild, moderate, or severe"), and duration ("seconds, minutes") before and during treatment when they were treated with a constant daily dosage for at least 3 months. Therapy was started with 50 mg lacosamide twice per day, and then, the dosage was increased depending on the efficacy.

Before treatment with lacosamide, the mean number of attacks of vertigo per month was 13 (range 2–700—a wide range which is common in VP[3]) (table). During treatment with lacosamide, the mean number decreased to 3 per month (range 0–30). In 3 patients, the intensity of the attacks was lower (from severe to mild), and in 2 patients, the duration was shorter (only a few seconds). Because of good response, 2 patients transiently reduced their daily dosage to 100 mg per day and 2 patients to no medication, but 3 of them experienced an increase in the frequency of attacks, so they were back to taking the original dosage again. The fourth patient remained free of symptoms for more than 6 months, with no attacks recurred. In August 2018, 3 patients were taking 250 mg and 3 other patients were taking 200 mg of lacosamide per day (table). By August 2018, the duration of treatment was between 4 and 22 months. As known from other studies (see reference 5), lacosamide was well tolerated, except for transient tiredness in 1 patient and transient dizziness with nausea in another patient (table).

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Table Clinical characteristics (sex, age at the time of initiation of the treatment) of the 7 patients, the number of attacks of vertigo before and during treatment with lacosamide, dosage, side effects, duration of treatment, and current situation

Pat.	Age[a], sex	Mean number attacks of vertigo per month before treatment	Mean number of attacks of vertigo per month during treatment[b]	Dosage: mg per day	Side effects	Duration (mo) of treatment	Comments	Status, August 2018
1	78, male	13	2	200 mg	At the beginning of treatment more tired	9	During treatment: lower intensity and shorter duration (from 15 s to 3–4 s) of the attacks	On treatment with 200 mg/d
2	49, male	ca. 400	5	200 mg	None	10	Significant improvement of QoL and functioning. Very happy with the treatment.	On treatment with 250 mg/d
3	41, male	2	0	100 mg	None	9	Could stop the treatment after 9 mo, still free of attacks.	No treatment necessary at the moment
4	68, female	15	1	200 mg	None	22	Under treatment: lower intensity and shorter duration of the attacks. Transient reduction to 100 mg: increase in the number of attacks. Therefore, ongoing treatment	On treatment with 200 mg/d
5	74, female	7	1	200 mg	None	11	Very happy with the medication. Improvement of QoL. Transient reduction to 100 mg per d caused recurrence of the attacks, so treatment was initiated again.	On treatment with 200 mg/d
6	76, female	11	3	250 mg	None	12	Patient briefly reduced and stopped the medication. After a few days, she had 3 attacks in a week, so she started again and continues taking the medication.	On treatment with 250 mg/d
7	40, female	ca. 700	ca. 30	250 mg	Transient nausea, dizziness, more tired	4	Under treatment: lower intensity of the attacks. Less anxiety because of the response to the treatment. Transient reduction to 100 mg caused an increase in the frequency of attacks.	On treatment with 250 mg

Abbreviation: QoL = quality of life.
[a] Age given when treatment was started.
[b] Mean number of attacks given by the patients were used when they were treated for at least 1 month.

As expected from the similar mode of action ("sodium-channel blocker") of CBZ/OXC and lacosamide, the latter reduces the attacks of vertigo in patients with VP. Lacosamide, however, had very few side effects in all patients, leading to high compliance and adherence. This small observational study with all its methodological shortcomings evident (e.g., a low number of individuals, not placebo-controlled, no dose finding) suggests that lacosamide can be effective in VP and is a well-tolerated alternative to CBZ or OXC. Finally, it could also be considered for the pharmacotherapy of other neurovascular cross-compression syndromes.[6]

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Name	Location	Roles and contribution
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Nicolina Goldschagg, MD	Department of Neurology and German Center for Vertigo and Balance Disorders (DSGZ), Ludwig Maximilian University, Campus Grosshadern, Munich, Germany	Recruitment of patients, interpretation of the data, and revising the manuscript for content
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Practical Implications

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