DALFAMPRIDINE IS ASSOCIATED WITH DE NOVO OCCURRENCE OR REOCCURRENCE OF POSITIVE SENSORY SYMPTOMS IN MS

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INTRODUTION

Oral extended release dalfampridine (FA) is a recently approved medication that blocks voltage-dependent potassium channels inhibiting functioning of axonal membranes. It results in improved conduction affecting ambulation in a subgroup of patients with multiple sclerosis (MS)[1-2]

Paroxysmal symptoms are due to abnormal electrical discharges due to demyelinated nerve fibers and include sensory paroxysms such trigeminal neuropathy associated with MS (TN) and motor paroxysms such as painful tonic spasms. These symptoms are present in approximately 10 percent of subjects with MS[3].

The hypothesis is that if FA enhances sensory fiber conduction it may simultaneously incite action potential conduction in damaged sensory nerves, resulting in new positive sensory symptoms such as parasthesia or pain.

METHODS

We report on the occurrence of new painful symptoms in patients with MS treated with FA prospectively, observed over 18 months.

RESULTS

A total of 44 patients with a mean age of 51 years (range 35-76) were included: 22 (50%) were female mean EDSS was 5.87 (range 3-7) with a mean disease duration of 14.2 years (range 3–30).
Out of 44 patients 3 experienced generalized painful parasthesia requiring discontinuation of FA.
Two of 44 subjects had a history of TN and were being treated successfully with medication (lamotrigine, pregabalin, gabapentin) when FA was initiated. Tab1
The onset of TN and generalized parasthesia occurred within 3 days of initiating treatment with FA and pain resolved within 24-48 hours of discontinuing treatment. No subjects experienced de novo TN during FA therapy.

Tab 1. Clinical Characteristic of the sample0

Male	22 (50%)
Female	22 (50%)
EDSS	5.87 (range 3 – 7) *mean
Disease duration	14.2 years (range 3–30) *mean
Symptoms in MS patients treated with FA	
Generalized painful parasthesia	3/44 (6,8%)
History of TN	2/44 (4,54%)

DISCUSSION

In the current sample the frequency of painful sensory symptoms was around 10% and it represents the principal reason for FA discontinuation. In comparison with other reports[4-5], the relationship between the onset of pain and FA treatment initiation (3 days), as well as and the rapid resolution of painful symptoms within 24-48 hours from discontinuation suggests a causal relationship. Worsening of or ex novo painful symptoms presents a limitation to the use of FA.

CONCLUSIONS

FA should be used with caution particularly in subjects with a history of TN (approximately 2% of patients) until there is a clearer understanding of the relationship. This is important given that in some cases TN related to FA may be drug-resistant, although in our sample the only subject who experienced worsening of pain related to TN recovered after FA discontinuation. A prospective study specifically assessing pain history and the occurrence of pain related to treatment would help to better understand possible predictors of de novo or reoccurring pain with the use of FA.

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