



## Gabapentin Causing Neurologic Dysfunction Leading to Falls

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### Abstract

In this case, a middle-aged woman suffering from chronic generalized pain, depression, and fatigue was diagnosed with fibromyalgia. She suffered from multiple common comorbidities associated with fibromyalgia. For her pain, she was started on low dose of gabapentin. The medication was titrated up to an oral dose of 300 mg TID for her chronic pain. However, soon thereafter she began to suffer from ataxia and falls. The patient was tapered off of gabapentin and her symptoms improved.

**Keywords:** Fibromyalgia; Gabapentin; Side effect; Ataxia

### Case Description

A middle-aged woman presented to a university based outpatient clinic with complaints of generalized pain, low back pain, and fatigue for many years. After a thorough medical workup, she was diagnosed with fibromyalgia. A medication that was initially effective for this patient was gabapentin. However, in the setting of unrelenting pain, the dosage of gabapentin was slowly titrated up to an oral dose of 300 mg TID. About one week after being seen in clinic, the patient and her family noted that she had begun to have an unsteady gait and poor coordination resulting in multiple falls. The patient underwent a complete neurological workup which was noted to be negative. Vital signs were consistently stable and she had no previous history of falls. She did not have other morbidities that could explain her falls.

Initially, there was not a concern that gabapentin could be the cause of her falls considering she had been placed on a relatively low oral dose of 300 mg TID. As the remainder of the workup was unremarkable, a trial of tapering down the dose of gabapentin was initiated. We had the patient wean off the gabapentin slowly over a 6 day period of time. Patient was given instructions to reduce Gabapentin to 300 mg BID for 3 days and then 300 mg Qhs for 3 days and then stop. This intervention had caused her falls to cease. She was subsequently started on other medications approved for the treatment of fibromyalgia that did not affect her balance. She was also prescribed complementary alternative medicine therapy. The synergistic effect of the aforementioned interventions improved the patient's quality of life by decreasing her pain, allowing her to sleep better, and improving her symptoms of depression.

### Discussion

Gabapentin (1-aminomethyl cyclohexane acetic acid) is a medication that is often used in the treatment of fibromyalgia. It was initially created to act as antiepileptic medication. It was produced as an anticonvulsant that acts by binding the alpha-2-delta subunit of the voltage-gated calcium channels within the central nervous system. Only after the initial use of the medication for epileptic patients were these medications used for other conditions, such as fibromyalgia.

Ataxia, in addition to fatigue, dizziness, sedation, and somnolence, are neurological side effects that are known to be associated with these medications [1]. The evidence available at this time shows that there is no one treatment for fibromyalgia syndrome and, rather, it includes a combination of pharmacological intervention as well as complementary and alternative medicine [2]. Of the antiepileptic medications studied, clinical trial evidence only favors gabapentin and pregabalin for the treatment of fibromyalgia [3]. Other medications commonly prescribed include duloxetine, milnacipran, and amitriptyline. Some of the more frequent comorbidities in fibromyalgia patients include back pain, headache, depression and sleep disorders.

Gabapentin is a well-known and commonly used medication for treating various neurologic and pain conditions. By doing so, it decreases the release of excitatory neurotransmitters, such as glutamate. Gabapentin is believed to be relatively safe and tolerable. However, adverse events may occur more often than anticipated. Although gabapentin is known to be excreted via the kidney and should be used with caution in those with renal impairments, it appears to have extreme effects on others without renal dysfunction as well [4]. Perhaps, there should be more concern and consideration regarding its adverse effects and neurologic toxicities before ultimately prescribing gabapentin. In addition, higher doses should be used with caution while monitoring for decreased balance and falls. After this case, we noted other fibromyalgia patients with falls due to gabapentin. Gabapentin is a commonly used medication in the management of chronic pain conditions, including fibromyalgia. It is often first choice for many clinicians as it is not known to have severe side effects in those with normal renal function. A loss of balance found to be associated with Gabapentin can be dangerous as it could easily lead to other injuries. Patients and physicians need to be aware of the unusual neurologic side effects with the use of Gabapentin.

### References

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