



## Transient akathisia after the SARS-Cov-2 vaccine

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### ABSTRACT

We describe a case of transient akathisia after the second dose of the Pfizer COVID-19 vaccine. Movement disorder symptoms such as parkinsonism have been described after other vaccinations and acute COVID-19 infection. This suggests a potential vulnerability of the extrapyramidal system to the immune response against even a component of the virus.

We describe a case of an adverse reaction after the second dose of the COVID-19 vaccine. The patient is a 36-year-old right-handed Hispanic female with a past medical history of atopic dermatitis, allergic rhinitis, and anxiety (well-controlled on sertraline 50 mg daily) who tolerated the first dose of the Pfizer-BioNTech vaccine well but who experienced an adverse reaction after she received the second dose. Approximately 12 h after the injection, she began to develop an urge to move which she described as “restless body syndrome.” There was no accompanying pain or change in sensation. For the next four hours, the patient would feel an impulse to flex and extend her back, knees, and ankles. She derived temporary relief of symptoms from volitional movement but the internal discomfort and urge to move would soon return. Her movements were best alleviated by flexing/extending her trunk and legs as well as getting up and constantly moving. Approximately 5 h after the onset of motor restlessness, she began to experience a low-grade fever, generalized myalgias, and nausea. Her general examination was pertinent for a temperature of 100.4°F and mild erythema and swelling at the injection site. Her neurologic exam was devoid of any motor or sensory deficits. The patient treated the fever and myalgias with ibuprofen, but this was after the restless movements ceased spontaneously. The remainder of her symptoms resolved approximately 24 h after the vaccine administration. The motor restlessness and near-constant movement of lower limbs and trunk experienced by this patient are consistent with the phenomenology of akathisia. At the time of submission, this is the first report of transient akathisia following the Pfizer/BioNTech COVID-19 vaccine. Neurologic complications other than systemic adverse effects (including headache) gleaned from the Phase III trial safety data included facial paralysis in the vaccine group at a frequency that did not exceed that in the general population [1]. Any association of movement disorder symptoms after vaccine administration in the literature amounts to case reports of dopaminergic-responsive parkinsonism after tetanus [2] and measles [3] vaccinations, with disputed causal relationships. On the other hand, recent articles in the press and videos on social media depict individuals with movements disorders following unconfirmed vaccination against COVID-19; in contrast to the symptomatology of our patient, these cases exhibited clear functional features and underscored the importance of expert evaluation to prevent misdiagnosis [4]. Acute onset akathisia typically follows exposure to dopamine blocking or depleting agents, with reports also implicating

selective serotonin re-uptake inhibitors. The patient was taking sertraline but its well-tolerated use at a stable dose for over a year and absence of a reaction after the first vaccine administration render it less likely to be the sole etiology of the akathisia. The reported association of parkinsonism (other than hyposmia) with COVID-19 infection [5] raises the specter of extrapyramidal system involvement and its sequelae even in the immune response against a component of the virus, for which specific pharmacotherapy, not warranted in this patient, may be necessary.

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### CRediT authorship contribution statement

**Meagen R. Salinas:** Writing - original draft, Writing - review & editing. **Marisara Dieppa:** Conceptualization, Writing - review & editing.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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