ISSN: 1607-8322, e-ISSN: 2220-5799 Anaesthesia, Pain & Intensive Care
Vol 30(2); February 2026 DOI: 10.35975/apic.v30i2.3139

CASE REPORT CORONA EXPERIENCE

Post-COVID-19 vaccine 'Stiff Person Syndrome'—consequential or coincidental?

Akhtar Purvez [1] , Mudhasir Bashir [2]

Authors affiliations:

1. Akhtar Purvez, MD, FASRA, 2335 Seminole Lane, Suite 500 Charlottesville, VA 22901,USA; **Email:** ap9h@uvahealth.org
2. Mudhasir Bashir, MD; 1300 Jefferson Park Ave 3rd Floor, Charlottesville, VA 22903, USA; Email: mb5qd@uvahealth.org

Correspondence: Akhtar Purvez, **Email:** ap9h@uvahealth.org**; Phone:** 1 434.825.2481

ABSTRACT

Stiff person syndrome (SPS) is a rare autoimmune neurological disorder characterized by progressive muscle stiffness, painful spasms, and impaired mobility. While COVID-19 vaccines have been associated with rare neurological complications, no published cases of SPS following vaccination have been documented in the medical literature to date. We present the case of a 45-year-old female with chronic pain, well controlled on gabapentin, who developed typical SPS manifestations within two weeks of receiving a COVID-19 vaccine. She was subsequently evaluated by a neurologist and diagnosed with SPS. This report highlights a potential temporal association between COVID-19 vaccination and SPS while reviewing existing surveillance and systematic reviews that have not identified such a complication. The case raises important questions regarding causality versus coincidence in rare post-vaccine syndromes.

Keywords: COVID-19; Stiff person syndrome; vaccine

Citation: Purvez A, Bashir M. Post-COVID-19 vaccine 'Stiff Person Syndrome'—consequential or coincidental? Anaesth. pain intensive care 2026;30(2):279-281. **DOI:** 10.35975/apic.v30i2.3139

Received: September 18, 2025; **Revised:** December 26, 2025; **Accepted:** January 28, 2026

1. INTRODUCTION

Intensive safety surveillance and systematic reviews of post-vaccine adverse events have accompanied the global rollout of COVID-19 vaccines. Neurological complications such as Guillain-Barré syndrome, transverse myelitis, encephalitis, and demyelinating diseases have been reported.[1-4] However, stiff person syndrome (SPS), a rare autoimmune disorder mediated by antibodies against glutamic acid decarboxylase (GAD65) and other synaptic proteins, has not been documented as a post-vaccination event.[2]

2. CASE REPORT

A 45-year-old female with a history of well-controlled chronic pain in addition to stable anxiety and depression on medications received her second dose of a COVID-19 mRNA vaccine. Within two weeks, she developed progressive axial muscle stiffness, painful spasms triggered by noise or stress, hyperlordotic posture, gait instability, and exaggerated startle responses. Neurological examination confirmed stiffness and spasms. Laboratory workup revealed elevated anti-GAD65 antibodies. Electromyography showed continuous motor unit activity consistent with SPS. MRI of the brain and spine was unremarkable.

She was diagnosed with stiff person syndrome and started on diazepam, with immunotherapy options discussed. In addition to neurological symptoms, the patient experienced the worsening of previously stable psychiatric symptoms, including anxiety and depression, which necessitated adjustments to her ongoing management plan. The diagnostic significance of markedly elevated anti-GAD antibodies in SPS has been previously described.

3. DISCUSSION

Table 1 summarizes neurological adverse events that have been documented following COVID-19 vaccination, including Guillain-Barré syndrome, transverse myelitis, encephalitis, seizures, Bell's palsy, cerebral venous sinus thrombosis, and other immune-mediated conditions. Despite their rarity and low frequency, systematic reviews and vaccine safety surveillance programs recognize these adverse effects. Importantly, stiff person syndrome (SPS) has not been reported in these datasets, underscoring the unique nature of the case presented here. The absence of SPS in large-scale analyses further suggests that its occurrence may be coincidental rather than causal, though an immune-triggering role of vaccination cannot be entirely excluded. Table 1 lists known neurological adverse events following COVID vaccination.

Table 1: Known neurological adverse events following COVID-19 vaccination

Neurological Side Effect	Estimated Incidence / Percentage
Guillain-Barré Syndrome	≈ 1–2 per 100,000 doses
Transverse Myelitis	< 1 per 100,000 doses
Encephalitis / Meningitis	< 1 per 100,000 doses
Seizures	≈ 2–3 per 100,000 doses
Bell's Palsy	≈ 3–4 per 100,000 doses
Cerebral Venous Sinus Thrombosis (CVST)	< 1 per 100,000 doses (mostly adenoviral vaccines)
Myasthenia Gravis (new-onset / exacerbation)	Extremely rare, case reports only
Peripheral Neuropathy	≈ 1–2 per 100,000 doses
Stiff Person Syndrome (SPS)	Not reported in surveillance to- date

This case represents, to our knowledge, one of the first documented instances of SPS following COVID-19 vaccination. The temporal proximity raises the question of whether vaccination may act as a trigger in predisposed individuals. However, establishing causality remains difficult. Systematic reviews of neurological immune-related adverse events following COVID-19 vaccination have not identified SPS.[1] CDC/FDA surveillance studies also did not capture SPS as a monitored or reported outcome.[2] Pooled analyses of neuromuscular complications after vaccination identified Guillain-Barré syndrome and myasthenia gravis but not SPS.[3,4] Thus, SPS remains undocumented in vaccine literature to date.

Conservative management with benzodiazepines (e.g., diazepam, clonazepam) remains the first-line therapy for symptom control. However, when symptoms persist or worsen, long-term immunomodulatory approaches are necessary. Recommended maintenance treatment options include:

1. Intravenous immunoglobulin (IVIG): Demonstrated efficacy in randomized controlled trials for reducing stiffness and improving mobility.[6]

2. Plasma exchange or rituximab: Considered in refractory cases to reduce pathogenic autoantibodies.[7]

3. Long-term GABAergic therapy: Baclofen, taken by mouth or through the spine, can help reduce muscle stiffness when
4. Adjunctive immunotherapy: Corticosteroids or other immunosuppressants (e.g., azathioprine, mycophenolate) may provide sustained benefit in chronic cases.[6,7]

Despite treatment, SPS is often progressive, and multidisciplinary management involving neurology, psychiatry, and rehabilitation services is essential for optimizing outcomes. Key insights into SPS pathogenesis and management strategies have been outlined in prior reviews.[5] The diagnostic significance of markedly elevated anti-GAD antibodies in SPS has been previously described.[8]

4. CONCLUSION

We report a rare case of stiff person syndrome developing shortly after COVID-19 vaccination. Although current surveillance has not identified SPS as a vaccine-related complication, the temporal relationship in this patient raises important questions. At present, evidence does not support a definitive causal association. Continued surveillance and case reporting are essential. Incorporating mechanistic insights and expanding therapeutic approaches may improve recognition and long-term outcomes in SPS.

5. Conflict of interest

All authors declare that there was no conflict of interest.

6. Authors' contribution

Both authors took part in the management of the patient as well as preparation of this case report.

7. REFERENCES

1. Shafiq A, Salameh MA, Laswi I, Mohammed I, Mhaimeed O, Mhaimeed N, et al.: Neurological Immune-Related Adverse Events After COVID-19

Vaccination: A Systematic Review. J Clin Pharmacol. 2022, 62:291-303. DOI: 10.1002/jcph.2017

2. Klein NP, Lewis N, Goddard K, ireman B, Zerbo O, Hanson KE, et al.: Surveillance for Adverse Events After COVID-19 mRNA Vaccination. JAMA. 2021, 326:1390-1399. PMCID: PMC8511971 DOI: 10.1001/jama.2021.15072
3. Tayebi A, Samimisedeh P, Jafari Afshar E, Mahmoudnia S, Milan N, Ayati A, et al.: Neuromuscular Diseases Associated With COVID-19 Vaccines: A Systematic Review and Pooled Analysis of 258 Patients. BMC Neurol. 2023, 23:437. PMCID: PMC10712145 DOI: 10.1186/s12883-023-03486-y
4. Chen Y, Xu Z, Wang P, Li XM, Shuai ZW, Ye DQ, et al.: New-Onset Autoimmune Phenomena Post-COVID-19 Vaccination. Immunology. 2022, 165:386-401. DOI: 10.1111/imm.13443
5. Dalakas MC: Stiff Person Syndrome: Advances in Pathogenesis and Therapeutic Interventions. Curr Treat Options Neurol. 2009, 11:102-110. DOI: 10.1007/s11940-009-0013-9
6. Dalakas MC, Alexopoulos H, Spaeth PJ: Complement in Neurological Disorders and Emerging Complement-Targeted Therapeutics. Nat Rev Neurol. 2020, 16:601-617. PMCID: PMC7528717 DOI: 10.1038/s41582-020-0400-0
7. McKeon A, Robinson MT, McEvoy KM, Matsumoto JY, Lennon VA, Ahlskog JE, et al.: Stiff-Man Syndrome and Variants: Clinical Course, Treatments, and Outcomes. Arch Neurol. 2012, 69:230-238. DOI: 10.1001/archneurol.2011.991
8. Murinson BB, Butler M, Marfurt K, Gleason S, De Camilli P, Solimena M. et al.: Markedly Elevated GAD Antibodies in SPS. Neurology. 2004, 63:2146-2148DOI: 10.1212/01.wnl.0000145661.01675.a8

