**Transverse myelitis after immunization against SARS-CoV-2: A case report**

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**ABSTRACT** (200-300 words)

**Background**: Transverse myelitis (TM) is a syndrome of varied etiology that causes sensory, motor and autonomic dysfunctions. Its main clinical presentation is bilateral weakening of the lower limbs, but this varies depending on the spinal level involved.

**Objective:** Discuss the relationship between the COVID-19 vaccine and TM

**Methods**: This is a case report of a 50-year-old man, who, in the second dose of immunization against SARS-CoV-2, began to present dysesthesia in the lower limbs. Four months later, after the third dose, he presented a new clinical picture of paresis, associated with tactile, thermal and painful hypoesthesia. On physical examination, he presented muscular atrophy and paresis (grade 2) in the main myotomes of the lower limbs and inability to maintain orthostatism. He denied allergies and having been affected by COVID-19. MRI of the brain, cervical and lumbar spine: normal. MRI of the thoracic spine: signal changes with a slightly expansive appearance in the lower portion of the thoracic cord during the convalescence phase. Liquor: Non-reactive Anti-aquaporin and AntiMOG Antibodies, Proteins: 80 mg/mL. Negative infectious and tumor panel. Normal electroneuromyography.

**Results:** The relationship between the COVID-19 vaccine and TM can be explained by the presence of adjuvants in the composition of vaccines that cause autoimmunity and lead to bone marrow inflammation. The patient's exams ruled out other potential causes and the MRI of the thoracic spine showed an alteration that is a diagnostic inclusion factor for TM.

**Conclusion:** Due to the impact of COVID-19 on global health and vaccination as the main policy to limit the transmission of this pathology, it is important to emphasize that the benefits of the vaccine are greater than the risks. Regarding post-vaccination MT, as the diagnosis is difficult and the prognosis variable, identifying and treating it early benefits recovery, prevents recurrence and avoids sequelae.

**BIOGRAPHY** (100-150 words)

Shara Aline Bueno Dantas is a medical student with an unwavering passion for learning and development. Since the beginning of her academic journey, she has had a great desire to positively impact people's lives. She continues to actively search for practical experiences that enrich her training and professional excellence. She wrote this case report in partnership with her supervising professor, who is a neurologist with years of experience in research, evaluation and teaching in hospital and educational institutions. The clinical case approach was based on a descriptive observational study, with attention to clinical signs, diagnoses and outcomes, to suggest new hypotheses in research and the emergence of new studies. This approach responds to all stakeholders and has a different way of focusing.



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