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Postural orthostatic tachycardia syndrome (pots) in patients after COVID-19: a systematic review

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INTRODUCTION: Postural orthostatic tachycardia syndrome (POTS) is a form of chronic dysautonomia characterized by an abnormal increase in heart rate (≥ 30 bpm) during the first minutes after assuming an upright position, without a significant decrease in blood pressure. It primarily affects young women and causes symptoms such as fatigue, palpitations, dizziness, orthostatic intolerance, and cognitive dysfunction. Its pathophysiology involves cerebral hypoperfusion, sympathetic hyperactivity, hypovolemia, autoimmunity, and dysregulation of the renin–angiotensin–aldosterone system. During the COVID-19 pandemic, the syndrome gained prominence because cases increased markedly after infection, particularly in the context of long COVID. Studies indicate that approximately 14% of infected individuals experience persistent symptoms for weeks or months, and POTS is one of the main postviral manifestations reported. This association has been attributed to autonomic dysfunction triggered by the viral inflammatory response, even after mild or asymptomatic disease. **METHOD:** This systematic review searched PubMed and SciELO from 2020 to 2024 using the terms ‘POTS,’ ‘COVID,’ and ‘post-COVID POTS.’ Human studies published in Portuguese or English that addressed POTS secondary to SARS-CoV-2 infection were included. The PRISMA protocol was followed for study selection and data analysis. **RESULTS:** Fifty-one studies were included, of which 25 reported POTS cases. The main symptoms were palpitations (up to 93%), fatigue, dyspnea, and brain fog. Most patients were women aged 30 to 40 years who had experienced mild COVID-19. A frequent association with autoimmune diseases was also observed. **DISCUSSION:** The findings reinforce the role of postviral autonomic dysfunction as a central mechanism of POTS. Its predominance among women and association with autoimmunity suggest that hormonal and immunologic factors contribute to susceptibility. Treatment includes nonpharmacologic measures and, in selected cases, beta-blockers, ivabradine, and fludrocortisone. **CONCLUSION:** Post-COVID-19 POTS is a relevant and frequently underdiagnosed syndrome with major effects on function and quality of life. Further longitudinal studies are needed to clarify its mechanisms and guide effective treatment.

KEYWORDS: Dysautonomia; COVID-19; Postural orthostatic tachycardia syndrome; Post-COVID-19 syndrome.