

# A Comprehensive Case Report on Postural Orthostatic Tachycardia Syndrome

Aishwarya Walia<sup>1</sup>, Smriti Arora<sup>2</sup>, Kishalay Datta<sup>3</sup>

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## Abstract

Postural Orthostatic Tachycardia Syndrome (POTS) is a complex autonomic disorder characterized by an excessive increase in heart rate upon standing. This case report explores the clinical presentation, diagnostic journey, and management of a patient diagnosed with POTS. The aim is to enhance understanding, highlight challenges in diagnosis, and discuss the multidisciplinary approach to managing this challenging syndrome.

**Keywords:** Orthostatic Tachycardia Syndrome (POTS); Challenging Syndrome; Lightheadedness.

## INTRODUCTION

POTS is a form of dysautonomia that predominantly affects young individuals, causing symptoms such as palpitations, light headedness and fatigue.<sup>1</sup> Our patient, a 26-year-old female, presented with recurrent episodes of dizziness and rapid heartbeat upon standing.<sup>2</sup> The case provides insight into the diagnostic process and the collaborative efforts required for effective management.<sup>3</sup>

**Author's Affiliation:** <sup>1</sup>Post Graduate Trainee, <sup>2</sup>Director and H.O.D, Emergency Medicine, Max Superspeciality Hospital, Shalimar Bagh 110088, Delhi, India.

**Corresponding Author:** Smriti Arora, Post Graduate Trainee, Emergency Medicine, Max Superspeciality Hospital, Shalimar Bagh 110088, Delhi, India.

**E-mail:** arorasmiti97@gmail.com

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## CASE

The patient reported a history of intermittent episodes of lightheadedness, palpitations, and generalized weakness for the past two years. Symptoms were exacerbated upon standing or prolonged sitting and relieved by lying down. She described a significant decline in her quality of life due to the unpredictable nature of these episodes. Patient was feeling lightheaded with heart rate around 190, checked electrolytes which was normal and initially it was similar to pSVT. Later upon putting patient in supine position, heart rate spiked to 230-240. As per ECG reports, no relevance was found between P&T wave with irregular RR. Upon repeating ECG after 10 minutes, again irregular RR was noticed but with different morphologies of P&T globally.



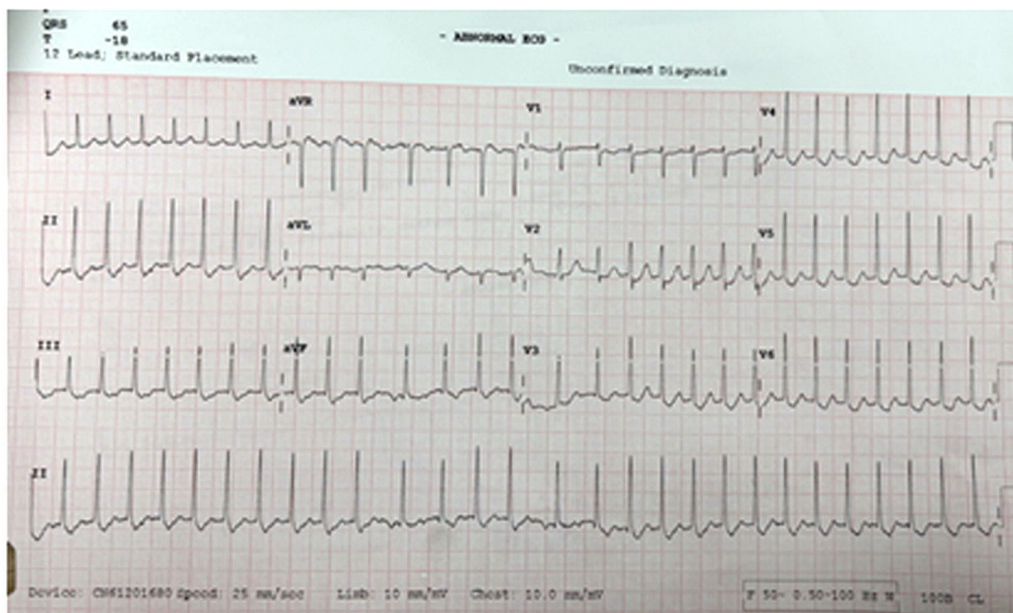


Fig. 1: ECG Suggestive of no relevance between P & T wave with irregular RR interval

Further the case was discussed with cardiologist, hence upon confirmation Patient was treated with

anti arrhythmic drugs and beta blocker and was admitted in CCU for further evaluation.

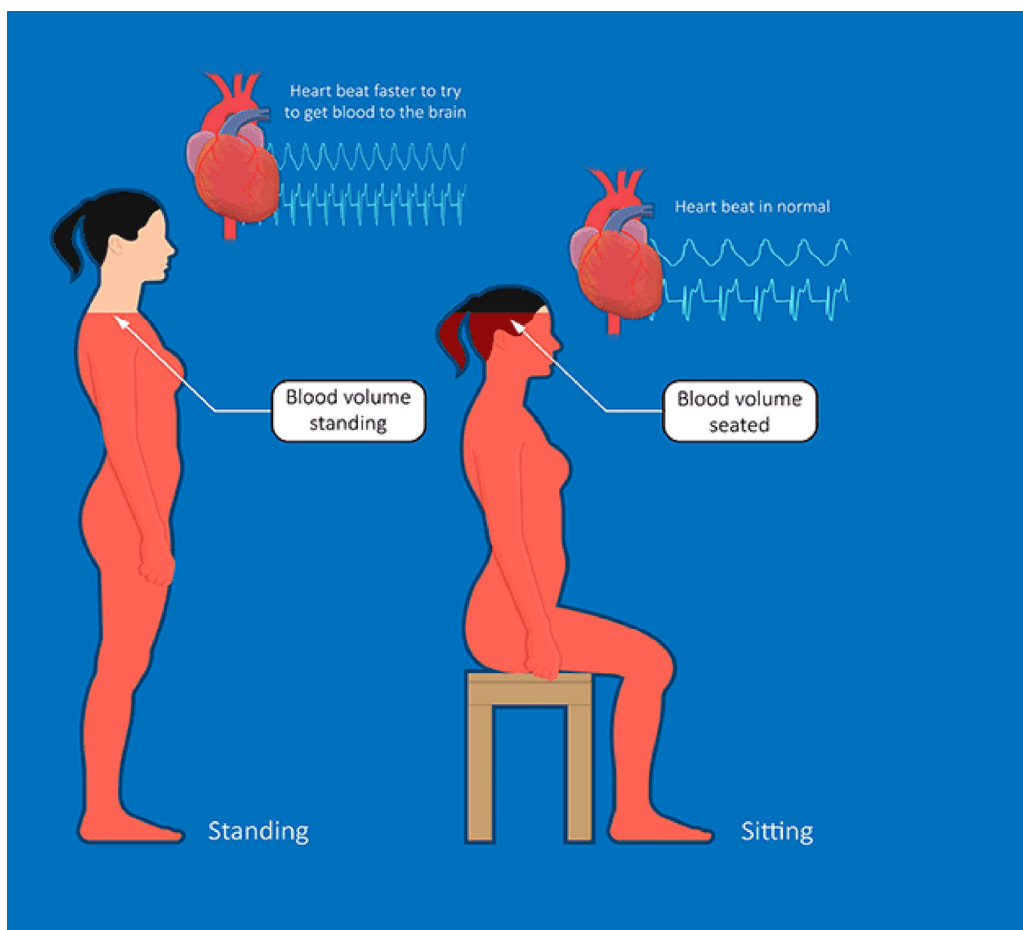


Fig. 2: Postural Orthostatic Tachycardia Syndrome

## DISCUSSION

The diagnostic process for POTS is often challenging, requiring a detailed clinical history, physical examination, and exclusion of other potential causes. Our patient underwent a series of investigations, including comprehensive blood tests, electrocardiogram (ECG), echocardiogram, and Holter monitoring. Initial results showed no abnormalities in routine blood work, ruling out common causes of orthostatic symptoms.

The pivotal moment in diagnosis came with a tilt-table test, which demonstrated a heart rate increase of more than 30 beats per minute within ten minutes of standing, meeting the criteria for POTS. The patient's blood pressure remained stable during the test, reinforcing the primary characteristic of POTS as a heart rate dysregulation upon postural change.

## MANAGEMENT

POTS management involves a multidisciplinary approach, addressing both pharmacological and non-pharmacological interventions. Beta-blockers, fludrocortisone, and midodrine are commonly prescribed to regulate heart rate and blood pressure. However, individualized treatment plans are crucial, considering the heterogeneous nature of POTS.

Non-pharmacological strategies include lifestyle modifications such as increased fluid and salt intake, graduated exercise programs, and compression stockings. Our patient underwent regular follow-ups to adjust medication dosages and assess treatment efficacy.

### Challenges and Complications

POTS poses challenges in diagnosis and management due to its diverse symptomatology and the absence of a universal treatment protocol. Additionally, comorbidities, such as chronic fatigue syndrome and joint hypermobility, further complicate the clinical picture.

The patient experienced occasional side effects from medications, emphasizing the need for close

monitoring. Moreover, maintaining a balance between activity and rest proved challenging for the patient, requiring ongoing support and education on symptom management.

### Prognosis and Quality of Life

While POTS is a chronic condition, many patients experience improvement in symptoms with proper management. Our patient, after several months of treatment, reported a reduction in the frequency and intensity of episodes. However, she acknowledged the need for ongoing medical support and lifestyle adjustments to maintain an optimal quality of life.

## CONCLUSION

This case report sheds light on the intricacies of diagnosing and managing Postural Orthostatic Tachycardia Syndrome. It emphasizes the importance of a comprehensive approach, involving medical professionals from various specialties, to address the multifaceted nature of POTS. Continued research is essential to enhance our understanding of this syndrome and refine treatment strategies, ultimately improving the prognosis and quality of life for individuals living with POTS.

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