

East Tennessee State University

## Digital Commons @ East Tennessee State University

---

Appalachian Student Research Forum

2023 ASRF Schedule

---

Apr 25th, 9:00 AM - 11:00 AM

### A Path Difficult to Tread: Pure Autonomic Failure, A Case Report

Sagar Nagpal

*East Tennessee State University*

Sindhu C. Pokhriyal

*Interfaith Medical Center*

Vaishnavi Theegala

*East Tennessee State University*

Dipsa Shastri

*East Tennessee State University*

Rami Dalbah

*East Tennessee State University*

*See next page for additional authors*

Follow this and additional works at: <https://dc.etsu.edu/asrf>

---

Nagpal, Sagar; Pokhriyal, Sindhu C.; Theegala, Vaishnavi; Shastri, Dipsa; Dalbah, Rami; and Paladagula, Abhijith, "A Path Difficult to Tread: Pure Autonomic Failure, A Case Report" (2023). *Appalachian Student Research Forum*. 124.

<https://dc.etsu.edu/asrf/2023/schedule/124>

This Poster Presentation is brought to you for free and open access by the Events at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in Appalachian Student Research Forum by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact [digilib@etsu.edu](mailto:digilib@etsu.edu).

---

**Author Names and Emails**

Sagar Nagpal, Sindhu C. Pokhriyal, Vaishnavi Theegala, Dipsa Shastri, Rami Dalbah, and Abhijith Paladagula

# A Path Difficult to Tread: Pure Autonomic Failure, A Case Report

Sagar Nagpal<sup>1</sup>,MD., Sindhu C. Pokhriyal<sup>2</sup>, MD., Vaishnavi Theegala<sup>1</sup>, MD., Dipsa Shastri<sup>1</sup>, MD., Rami Dalbah<sup>1</sup>,MD., Abhijith Paladagula<sup>1</sup> MD., Rupal Shah,MD<sup>1</sup>

<sup>1</sup>Department of Internal Medicine, East Tennessee State University, <sup>2</sup> Department of Internal Medicine, Interfaith Medical Center



NY

## Abstract

Pure autonomic failure(PAF) is a rare disorder characterized by orthostatic hypotension, absence of a compensatory rise in heart rate, and abnormal autonomic functions. In most cases, supine hypertension is seen coupled with orthostatic hypotension, making the management of these patients a big challenge.

## Case report

We present case of a 74-year-old gentleman, who presented to the ED with altered mental status for a day; along with progressive weakness for 3 weeks.

### Past medical History:

Hypertension, history of alcoholism, and REM sleep disorder. He was being treated for erectile dysfunction for the last 10 years

**Family history:** Parkinson's disease in his mother and sister.

## Case report

**Home medications :** Lisinopril 40 mg once a day, Amlodipine 10 mg once a day, Tamsulosin 0.4 mg at night and Rosuvastatin 20 mg once a day. His blood pressure(BP) on presentation was ranging between 109/74-194/76 mm of Hg. Systolic BP dropped by 30mmHg after tilting the angle of the bed to 45 degrees for 1 minute with no change in HR and the patient started having symptoms including nausea and dizziness in this position. Orthostatic vitals showed a dramatic drop in Systolic BP of >80mmHg after 1 minute of standing with no change in heart rate.

**Investigations :** EKG showed sinus rhythm. Echocardiogram revealed Ejection fraction of 50-55%, no valvular pathology was noticed. MRI brain showed chronic microvascular changes but otherwise it was unremarkable for any acute findings. Rest of the labs including thyroid function tests and Corticotrophin stimulation test were in normal range.

## Lab values

140	102	20	135
3.7	32	0.9	

## Other significant labs

TSH	0.77 uIU/ml
T4	1.1 ng/dl
Cortisol, AM	19.0 ug/dl
Cortisol, baseline	18.5 ug/dl
Cortisol, 30 min	24.6 ug/dl
Cortisol, 60 min	36.4 ug/dl

## TREATMENT

All anti-hypertensives were discontinued. Patient was still having symptomatic orthostatic hypotension. Supportive treatment was started with Midodrine, Droxidopa, and Pyridostigmine, thigh-high TED hose during daytime and Nitroglycerin patch at night for supine hypertension. As the patient continued to drop his BP by 60-80 mmHg on standing, he was started on fludrocortisone. Patient was discharged to a rehabilitation facility after his symptoms were controlled.

## CONCLUSION

Pure autonomic failure is a diagnosis of exclusion. The main symptom of PAF is orthostatic hypotension, a sudden drop in blood pressure upon standing<sup>1</sup>. Treatment involves both pharmacological and non-pharmacological measures.

## DISCUSSION

PAF can present with orthostatic hypotension, erectile dysfunction and urinary and gastrointestinal symptoms may occur as well. Patients with PAF may progress to develop Parkinson's disease or Dementia with Lewy bodies and, less frequently, Multiple system atrophy<sup>2</sup>. However, some patients with PAF may retain the same phenotype for decades, suggesting that the neurodegenerative process remains confined to the peripheral autonomic neurons.

## References

1. Pure autonomic failure - symptoms, causes, treatment: Nord. National Organization for Rare Disorders. (2023, January 12). Retrieved April 21, 2023, from <https://rarediseases.org/rare-diseases/pure-autonomic-failure/>
2. Consensus statement on the definition of orthostatic hypotension, pure autonomic failure, and multiple system atrophy. The Consensus Committee of the American Autonomic Society and the American Academy of Neurology. (1996). *Neurology*, 46(5), 1470. <https://doi.org/10.1212/wnl.46.5.1470>