

## Introduction

- 33-year-old female with acute polyneuropathy secondary to dry beriberi
- Patient with a history of alcohol use disorder presented with ascending lower extremity numbness and weakness, progressing from her feet into her hands and face.
- Symptoms worsened with patient experiencing a loss of deep tendon reflexes, proprioception, and the inability to ambulate.

## Workup, Management, and Outcomes

- Initial workup, including MRI of brain and spine, vasculitis labs, lumbar puncture, VDRL, Vitamin B12, and HIV were unremarkable.
- Electromyography showed evidence of a sensory axonal polyneuropathy.
- Left sural nerve biopsy illustrated active and subacute mild axonopathy affecting both myelinated and unmyelinated axons, with no evidence of a demyelinating disease process or evidence of vasculitis.
- She was treated with plasma exchange for concern of Guillain-Barré syndrome (GBS) with no improvement.
- Malnutrition workup illustrated undetectable thiamine indicating a nutritional etiology for axonal loss, consistent with dry beriberi.
- She was treated with thiamine supplementation and experienced slow functional improvement.

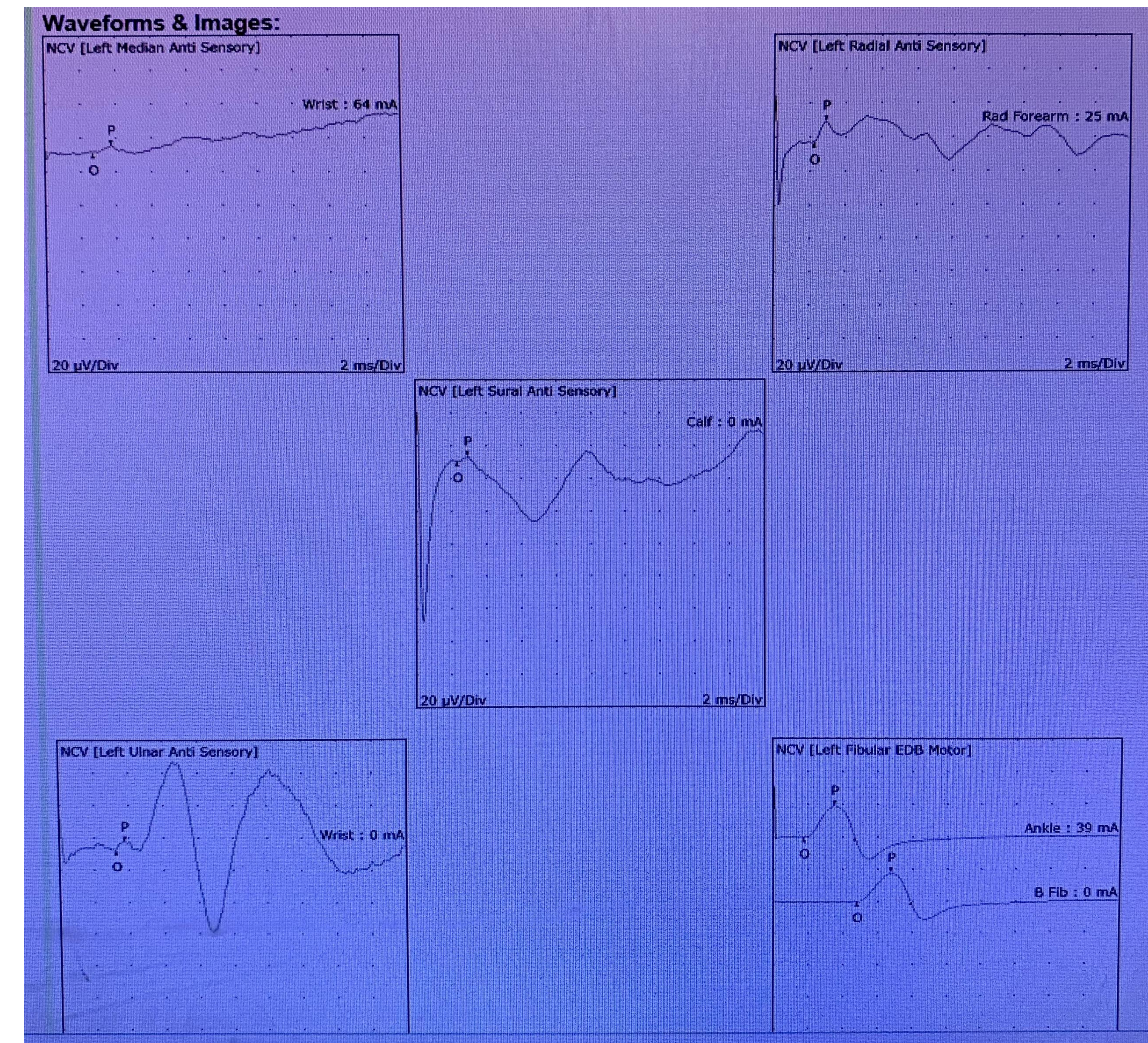
## Discussion

- Thiamine deficiency is rare in developed countries due to vitamin fortification of foods, however, is commonly caused by alcoholism.
- Beriberi is secondary to deficiency of thiamine and has several forms (dry beriberi and wet beriberi).
- Dry beriberi is a polyneuritic syndrome presenting with impaired sensory nerves and tendon reflexes, and partial paralysis.
- Dry beriberi can commonly be mistaken for GBS – an inflammatory disorder of the peripheral nerves with rapid onset of ascending weakness, numbness, and loss of reflexes.
- Both dry beriberi and GBS can present with ascending paresis, paresthesia, and hyporeflexia.
- Electromyography can appear similar in both, dry beriberi and GBS, with evidence of sensory axonal polyneuropathy.
- It is critical to consider and Early treatment of dry beriberi with supplemental thiamine is critical for recovery.

## Conclusion

- Both dry beriberi and GBS can lead to a sensorimotor polyneuropathy and axon injury on Electromyography.
- It is important to keep higher suspicion for nutritional thiamine deficiency in setting of chronic alcohol use and acute polyneuropathy, as early initiation of treatment can lead to complete recovery.

## Figure



## References

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3016303/>
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