

Moped Mayhem And A Crash Course In Blood Pressure Problems

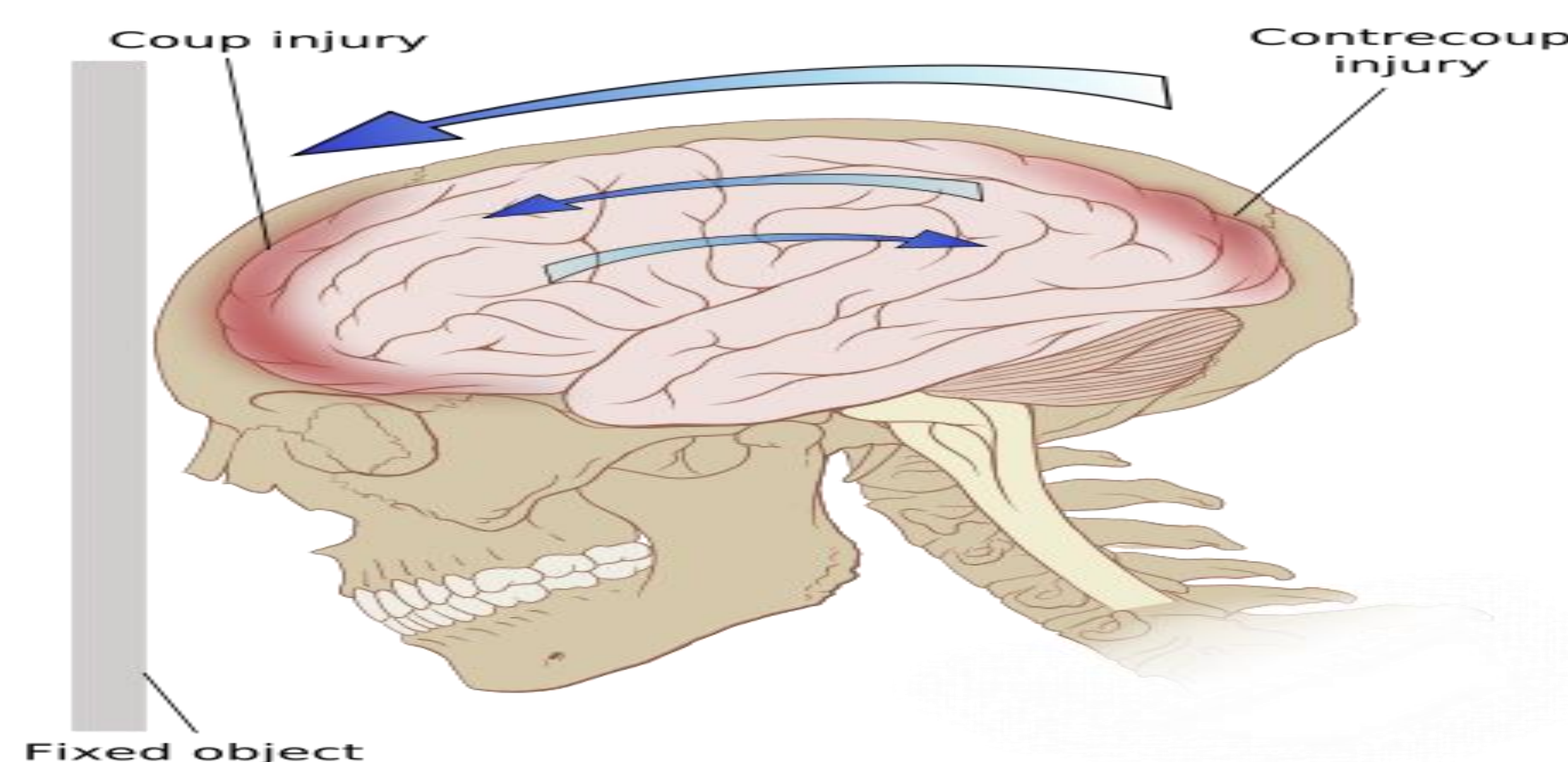
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History

A 29-year-old former competitive cheerleader presents with new onset HTN after sustaining a closed head injury w/o LOC falling from a moped four weeks ago

- ❑ PMH: Ehlers Danlos Syndrome (EDS)
- ❑ Current symptoms: dizziness, headaches, blurry vision, nausea, poor concentration, and pulsatile tinnitus
- ❑ Home BP log: 150 -160s / 90 -100s mm Hg

Concussion Injury Mechanism



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Physical Exam

- ❑ Vitals: BP 159/99 mm Hg, Pulse 81 bpm.
- ❑ CV: RRR No murmur, friction rub or gallop.
- ❑ HEENT: NCAT. Bilateral TM, ear canal, and external ears are normal. Weber exam lateralized left. Bilateral Rinne testing was normal. EOMI with PERRL bilaterally. Dilated eye exam is normal.
- ❑ Neuro: no focal deficit. A&Ox3. GCS of 15. CN 2-12 intact without dysarthria or facial asymmetry. Sensation and motor function intact. Normal gait and reflexes.

Test & Results

- ❑ Head CT without contrast: negative for intracranial pathology
- ❑ MRI Brain w/o contrast normal
- ❑ Home BP log 150-160s/90-100s mmHg

Differential Diagnosis

- ❑ Dysautonomia in Ehlers-Danlos Syndrome (EDS)
- ❑ Post Concussive Syndrome
- ❑ Mild Traumatic Brain Injury (mTBI)
- ❑ Labyrinthine Concussion
- ❑ HTN

Final/Working Diagnosis

- ❑ Based on the patient's presentation, PE, and studies, our final diagnosis is Dysautonomia in the setting of EDS

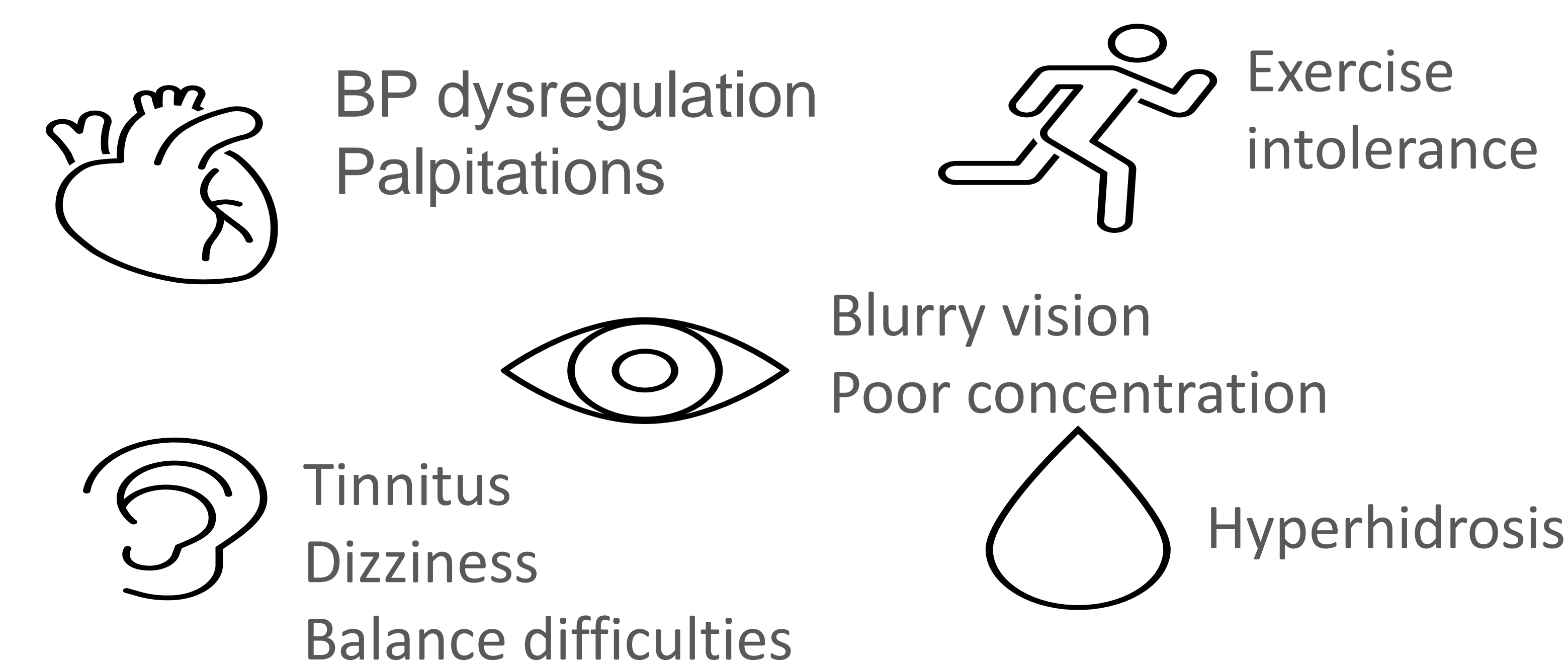
Discussion

- ❑ Mild TBI can lead to systemic effects on the body (1).
- ❑ Autonomic dysfunction can be a contributing factor in the presentation of mTBI (1).
- ❑ Our patient experienced dysautonomia following a mTBI and continued to display multiple neurological symptoms after several months.
- ❑ Dysautonomia has also been found in patients with EDS (2).
- ❑ EDS pts can experience slower, less complete recovery of neuro symptoms after mTBI and a underlying Dx of EDS should be considered in patients with atypical recovery (3).
- ❑ HTN can be attributed to increased sympathetic activity (1).

Outcome/Return to Activity/Follow up

- ❑ Referred to Neurology due to persistent symptoms
- ❑ Slow but noted improvement in dizziness, blurry vision, headaches tinnitus, and difficulty concentrating.
- ❑ BP improved to 120-130s/80-90s with anti-hypertensive therapy.
- ❑ 3 months post injury: Neuro recommended return to work and usual activities with progressive activity as tolerated with symptomatic management of persistent post-concussive symptoms.
- ❑ Advised routine follow-up with her PCP for management of HTN in the setting of dysautonomia.

Signs/Symptoms of Dysautonomia



References

1. National Institute of Neurological Disorders and Stroke (U.S.). Dysautonomia. [Bethesda, Md.] :National Institute of Neurological Disorders and Stroke, Dept. of Health and Human Services, USA, July, 2022.
2. Mathias CJ, Owens A, Iodice V, Hakim A. Dysautonomia in the Ehlers-Danlos syndromes and hypermobility spectrum disorders-With a focus on the postural tachycardia syndrome. Am J Med Genet C Semin Med Genet. 2021 Dec;187(4):510-519. doi: 10.1002/ajmg.c.31951. Epub 2021 Nov 12. PMID: 34766441.
3. Gami, A., Singman, E.L. Underlying Ehlers-Danlos syndrome discovered during neuro-ophthalmic evaluation of concussion patients: a case series. BMC Ophthalmol 19, 159 (2019). <https://doi.org/10.1186/s12886-019-1174-2>