

Vertebrobasilar Insufficiency

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1 Overview

Vertebrobasilar insufficiency occurs when both [basilar arteries](#) are occluded.

2 Clinical Manifestations

The clinical manifestations of VBI are difficult to distinguish from other causes of brainstem ischemia (see later) and can include any or all of the following:

- Dizziness¹
- Visual disturbance¹
- Drop attacks (a sudden loss of postural tone without loss of consciousness)¹
- Ataxia¹
- Dysarthria¹
- Dysphagia¹
- Hemiplegia¹

- Hemianesthesia¹
- Nausea¹
- Ringing in the ears¹

i Note

Terret et al. (2001) suggested the mnemonic “**5D’s And 3N’s**” for remembering the common signs and symptoms of VBI¹.

- 5D’s: Dizziness, Drop attack, Diplopia, Dysarthria, Dysphagia¹
- 1xA: Ataxia of gait¹
- 3N’s: Nausea, Numbness, Nystagmus¹

There is no single consistent pattern for VBI¹. The most common presenting symptoms are vertigo, nausea, and headache that can be subtle, intermittent, and even chronic in nature¹.

2.1 Head & Neck Pain

2.2 Vertigo & Dizziness

Dizziness is the **most common** symptom of VBI, but is rarely found in isolation¹. The dutton textbook mentions vertigo but does not provide any sources or explanation as to why this was mentioned¹.

2.3 Headache

A headache due to VBI commonly manifests with a gradual onset². The headache generally has a unilateral occipital or frontotemporal pattern^{1,2}.

The headache is typically described as gradual onset that is mostly unilateral and involves the frontotemporal region

3 Tests

Vertebrobasilar Insufficiency Test

4 DDX

Spontaneous intracranial hypotension is a common DDX for VBI, but differs since it generally presents with a gradual onset orthostatic headache near the occipital regions² These headaches are orthostatic since the low volume of CSF d/t leakage allows the brain to displace downwards when standing². This displacement causes the headache symptoms to worsen when standing and to relieve when laying down².

1. Dutton M. *Dutton's Orthopaedic Examination, Evaluation, and Intervention*. Fifth edition. McGraw Hill Education; 2020.
2. Chen YC, Ou YH, Chang MC, Chen WL, Lin CM. Vertebral artery dissection stroke in evolution presented with postural headache as initial manifestation. *Neurology International*. 2018;10(2). doi:[10.4081/ni.2018.7694](https://doi.org/10.4081/ni.2018.7694)