

Isolated Dizziness/Vertigo, Vascular Risk Factors and Stroke

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Dizziness is a common symptom encountered in everyday clinical practice, affecting about 20% to 30% of the general population⁽¹⁾. The number is even higher in the elderly. It is estimated that around 7.5 million patients with dizziness were seen in ambulatory care setting in the U.S.⁽²⁾, making it the most common principal complaint in the emergency department.

The term “dizziness” is very nonspecific, but may refer to vertigo, which is the sensation of spinning, lightheadedness, presyncope, or feeling of imbalance. It is often associated with depressed mood, poor self-rated health, falls, and a reduction in social activities⁽³⁾. Most of the causes (over 75%) are peripheral vestibular disorders, such as benign paroxysmal positional vertigo, vestibular neuritis or labyrinthitis⁽⁴⁻⁵⁾. Central causes account for less than 25% of the cases. The diagnosis of vertebrobasilar insufficiency (VBI) is obvious when the dizziness/vertigo is accompanied by other neurological symptoms, e.g. ataxia, diplopia, and nystagmus. However, when vertigo/dizziness occurs in isolation, it is difficult to differentiate vascular causes from other, more benign peripheral vestibular disorders. There have been conflict results in the estimate on the role of vascular insufficiency in patients with isolated dizziness/vertigo^(2, 6-12).

In this issue, Chang and colleagues systemically evaluate 170 evaluated subjects receiving self-paid health check-up of the cerebrovascular system, includ-

ing brain magnetic resonance imaging (MRI), serum biochemistry and vascular risk factors screening, to investigate the relationship between vascular risk factors and isolated dizziness/vertigo⁽¹³⁾. Twenty-eight out of the 170 subjects complained of chronic isolated dizziness/vertigo. They found that old age, obese female, higher uric acid level and MRI evidence of leukoaraiosis were significantly associated with chronic isolated dizziness/vertigo.

Grad and Baloh found a high incidence of isolated episodes of vertigo during their course of disease in a retrospective review of 84 cases with VBI or brainstem infarction⁽⁷⁾. Sixty-two percent of patients with VBI had at least one isolated episode of vertigo; in 19% VBI began with isolated episode of vertigo. Transient ischemic in the vestibular labyrinth ischemia was highly suspected in these cases. Similarly, Gomez et al. found a high incidence (6/29) of widespread vascular insufficiency in the VB system in patients with long-standing (> 4 weeks) isolated vertigo⁽¹⁰⁾. In addition, these patients had multiple vascular risk factors in common. This was confirmed by a recent study⁽¹¹⁾. Moubayed and Saliba reviewed the morphologic results of vertebral arteries (VA) by magnetic resonance angiography (MRA) in 133 patients. Compared to normal VAs, those with VA stenosis or hypoplasia (61 cases) had higher frequency of isolated positional vertigo or dizziness (85.7% vs. 58%). Furthermore, those with VA abnor-

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malities had more stroke risk factors (≥ 3) than patients with normal VA. The results of Chang et al. study⁽¹³⁾ essentially paralleled these previous studies, i.e. patients with isolated dizziness/vertigo of presumably vascular origin were older, had higher body mass index (BMI), metabolic derangement, and more stroke risk factors.

The most frequent sites of pathology in patients with isolated dizziness/vertigo are brainstem and/or cerebellum. Yamasoba et al. reported on a high prevalence of lacunar infarcts in the hindbrain in aged patients with chronic dizziness⁽⁹⁾. Chan et al. reported on a case of pontine infarction due to VA thrombosis presenting with chronic isolated vertigo⁽¹⁴⁾. Colledge et al. found more white matter lesions especially in the midbrain in aged dizzy patients (≥ 65) compared to control subjects⁽⁶⁾. These authors postulated that cerebral small vessel disease could cause dizziness in susceptible patients. The underlying mechanism of higher frequency of leukoaraiosis in Chang et al. study⁽¹³⁾ might be the same.

Given the high prevalence of isolated dizziness/vertigo in our everyday practice, additional researches are warranted to further delineate the role of vascular risk factors and cerebral small vessel disease in these patients.

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