

Dizziness caused by medications

The terms ‘dizziness’ and ‘vertigo’ are often used interchangeably but have different meanings. ‘Dizziness’ is now precisely defined as “a sensation of disturbed or impaired spatial orientation without a false or distorted sense of motion (vertigo)”.¹ Well recognised causes of dizziness are extremes of blood pressure, cardiac arrhythmias and hypoglycaemia. However, an increasingly common cause is the side-effects of prescribed medications.

In a private practice (J.H.) specialising in the management of vertigo and dizziness, over a 10-year period, 70 patients were identified as having dizziness as a medication side-effect. The typical presentation is “dizziness” and often “staggyrness”, which comes on after breakfast builds during the morning and often fades by the evening.

This was established by either changing the time of use from morning to evening or (usually) cessation of the drug. The drugs were, in order of frequency: simvastatin 15 (patients), quinapril 10, terazosin 8, diltiazem 6, cilazapril 5, doxazosin 4, metoprolol 4, candesartan 2, felodipine 2, atorvastatin 2, and 1 each for 12 other drugs.

The 2013 MIMS New Ethicals² lists dizziness as a side effect of all commonly used antihypertensives. However, in the clinical literature there is an absence of likely mechanisms. One explanation is that a noradrenergic receptor blocker (e.g. doxazosin) or a calcium channel blocker (e.g. diltiazem) could affect the vestibular nucleus, which has noradrenergic receptors and calcium channels.

Noradrenaline is known to modulate neuronal responses to GABA in the vestibular nuclei and may participate in the regulation of the vestibulo-spinal and vestibulo-ocular reflexes.^{3,4} Another explanation is that changes in blood pressure affect the vestibular nucleus. It is well known that vestibular stimulation affects blood pressure.⁵ Conversely there is animal experimental evidence that acute hypotension induces electrical activity mediated by the excitatory transmitter glutamate.⁴

Although MIMS² does not include disabling dizziness as a side-effect of statins it is not infrequently encountered in publications,^{6,7} but more difficult to explain. The statins are HMG-CoA reductase inhibitors whose primary role is reduction of cholesterol. They also have poorly

understood cardioprotective effects which include vasodilatation, and therefore may modulate function in the vestibular nuclei.

In summary, in a patient complaining of non-specific fluctuating dizziness, a medication side-effect should be considered. It seems that general practitioners and urologists have long been aware of this for terazosin and doxazosin, but few are aware for most antihypertensives and the statins.

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