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Original Research Article

Vestibular migraine management by the United Kingdom ear, nose and throat clinicians: a "snapshot"

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ABSTRACT

Background: Vestibular migraine is a common cause of dizziness with various management options, similar to that of regular migraine treatments. This study aimed to characterise current practice in vestibular migraine (VM) management amongst ear, nose and throat (ENT) specialists across the United Kingdom (UK).
Methods: A national survey of ENT UK members regarding their management of VM was conducted. Freedom of information requests were also sent to each integrated health board (IHB) to determine if they had a migraine and/or vestibular migraine protocols.
Results: There was wide variability across ENT clinicians in their management of VM with 45.29% starting no treatment or lifestyle advice only before transferring the care of the patient to another provider. Only 4 IHBs had a migraine protocol that referenced VM.
Conclusions: This study identifies the variation in the management of vestibular migraine across ENT clinicians. It also potentially highlights the need for improved education of ENT trainees about the condition. The authors would support ENT clinicians to become involved in writing migraine protocols for their trusts, to include vestibular migraine within these guidelines.

Keywords: Vestibular migraine, Migrainous vertigo, Migraine-associated vertigo, Migraine-associated dizziness, Migraine-related vertigo, Migraine-anxiety-associated dizziness

INTRODUCTION

Vestibular migraine (VM) is a one of the most common causes for episodic vertigo.[1] It has a female to male ratio of 5:1, with an average onset of 37 years of age. Several studies suggest linkage with 5q35 or 22q12 chromosomes, but it can also occur sporadically.[2,3] Both genetic and environmental factors are thought to play a role.[4]

Response to antimigraine therapy suggests headache and dizziness may share a common aetiology in VM. Various theories have been proposed; it has been suggested it involves hypoperfusion of the inner ear secondary to vasospasm.[5] It has also been suggested structures that that modulate trigeminal nociceptive inputs may be involved and altered, with subsequent inappropriate neurotransmitter release (serotonin, noradrenaline, and dopamine).[6]

Diagnostic criteria for VM were described by Neuhauser et al and were revised by the International Headache Society and the Barany Society in a joint consensus in 2012.[7,8] The diagnostic criteria focus predominantly on vestibular and migraine related symptoms. Other symptoms such as hearing loss, tinnitus, nausea, and vomiting may be associated with VM, but they are not as specific and are not included in the criteria, Barany Society and International Headache Society Consensus Update.[16]

Despite established diagnostic criteria, VM can be a difficult condition to identify due to overlapping symptoms with other conditions such as Meniere's and classic migraine and is likely under-diagnosed.[9]

The evidence base for VM treatment is limited. VM tends to be managed as per classical migraine with lifestyle advice, such as, a symptoms diary; avoiding dietary triggers; maintaining good sleep patterns; stress management and exercise. Pharmaceutical treatments are categorised into abortive and preventative treatments.

Abortive treatments include simple analgesics, triptans and anti-emetics. Preventative treatments include anti-depressants (amitriptyline, nortriptyline, venlafaxine), beta-blockers (propranolol, metoprolol), calcium channel blockers (flunarizine), and anti-epileptics (topiramate, sodium valproate, lamotrigine). Other preventatives referred to in the literature are candesartan, riboflavin, coenzyme-Q10, magnesium, botulinum toxin A, calcitonin gene-related peptide (CGRP) inhibitors, and acupuncture.[1]

Most studies of VM treatment are uncontrolled case series with retrospective design or observational studies. There are no national or international guidelines that have been established at the time of writing. There have been recent systematic reviews and meta-analyses, including a Cochrane review, focused on the best management strategy for vestibular migraine. The authors were not able to define a preferred treatment strategy due to heterogeneity of study design and low-quality evidence.[11-13] Smyth et al provide a useful stratification table using levels of evidence, side effects and independent patient profiles to help decide upon the best treatment approach.[1]

VM may be challenging to diagnose due to the overlap in presentation with Meniere's disease for example, but may also be complex to treat - particularly for the training ENT surgeon. Most of the medications indicated for the treatment of VM are not commonly used in routine ENT practice, and many have cautions/contra-indications, require monitoring, and/or dose-adjustment.

The aim of this study was to investigate the management of the VM amongst ENT clinicians across the UK to establish any degree of variability in their approaches.

METHODS

Survey

A survey was designed using the "SmartSurvey" online software.[14] It was distributed to ENT UK members (approximately 2,700 members) electronically via email link in February 2023 and was live until the end of March 2023. The survey consisted of 15 questions. Any member of ENT UK was invited to complete the survey. ENT clinicians from any sub-speciality of any grade, from a first surgical doctor in training (ST1) to consultant was included. Any replies from unqualified doctors would be excluded. The ENT UK survey was edited and approved by their survey guardian prior to distribution. All data collected from the ENT UK survey was anonymised. Results would be collected as a percentage sample of the total number of respondents. No further in-depth statistical methods were felt to be necessary for the aim of this study.

Migraine protocol freedom of information requests

Freedom of information (FoI) requests were sent to the all 42 integrated health systems in England, all 13 health and social care boards in Scotland, all 7 Health boards in Wales and all 5 Northern Ireland health and social care trusts. This was done via email asking two questions (Table 1). This aspect of the study did not require any ethical approval.

Table 1: Freedom of information request sent to IHBs across the UK.

S. no.	Questions
1	Our IHB has a guideline or protocol for management of migraine
	a) Yes * b) No c) Unsure
2	Our IHB has a guideline or protocol for management of Vestibular Migraine
	a) Yes * b) No c) Unsure

*If yes, please may you attach the protocol if possible

RESULTS

Survey

There were a total of 128 responses to the survey from the overall 2700 recipients it was sent to via the email invite across the UK (5% response rate) across 68 different hospital sites (Table 2 and Figure 2). Not all of the respondents answered all of the survey questions (see Table 2).

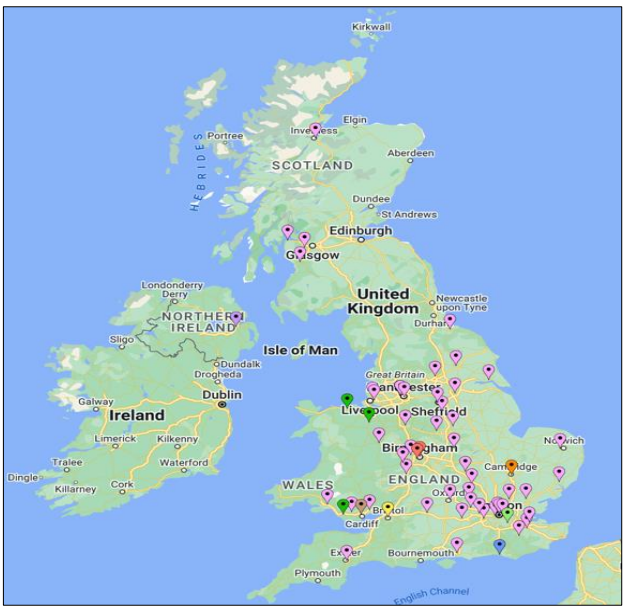

Figure 1: Survey responses across the UK.

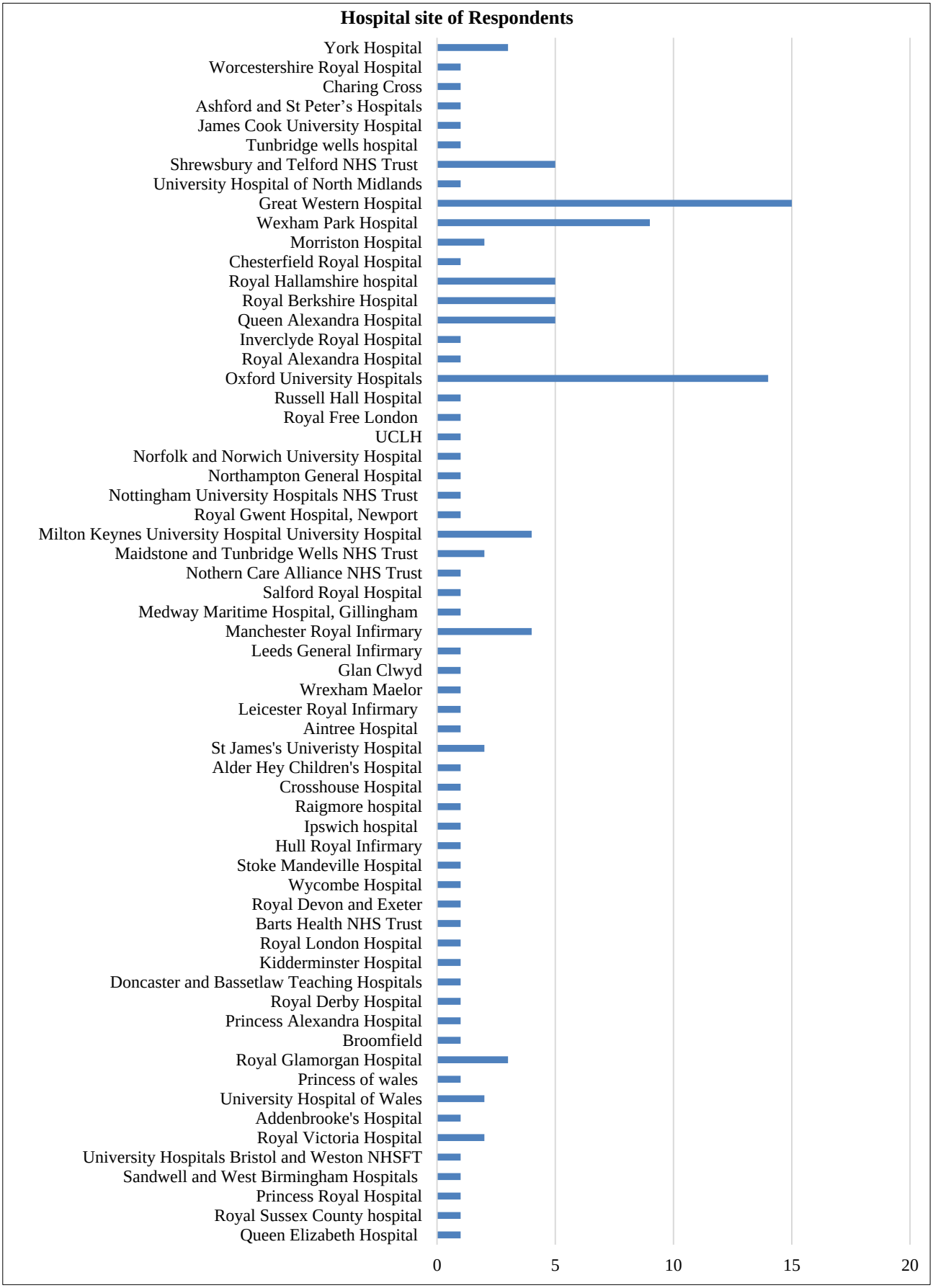

Figure 2: Hospital site of respondents.

Table 2: Survey responses.

Survey questions		Answer options	
General questions			
1	What is your current grade? Answered: 128, skipped: 0	Consultant	71 (55.47%)
		Associate specialist/specialty doctor	20 (15.62%)
		ST6-8	19 (14.84%)
		ST3-5	15 (11.72%)
		ST1-2	3 (2.34%)
2	Do you have a special interest in otology/neuro-otology/vestibular medicine? Answered: 128, skipped: 0	Yes	68 (53.12%)
		No	60 (46.88%)
3	Which hospital do you currently work at?	Free text	
4	Does your ENT department have a specialist "vertigo" or "dizzy clinic"? Answered: 128, skipped: 0	Yes	86 (67.19%)
		No	34 (26.56%)
		Not sure	8 (6.25%)
Diagnosis of vestibular migraine			
5	Are you aware of a guideline for managing vestibular migraine at your NHS trust? Answered: 128, skipped: 0	Yes	17 (13.28%)
		No	96 (75.00%)
		Not sure	15 (11.72%)
6	Are you aware of the "Barany/International headache society" diagnostic criteria for vestibular migraine? Answered: 128, skipped: 0	Yes, and I use them to diagnose patients with vestibular migraine	50 (39.06%)
		Yes, but I do not use them to diagnose patients with vestibular migraine	34 (26.56%)
		No, I am not aware of these criteria	44 (34.38%)
7	Do you consider vestibular migraine a distinct clinical diagnosis/condition? Answered: 128, skipped: 0	Yes	120 (93.75%)
		No	8 (6.25%)
8	'If YES' to Q7, (if NO, go straight to Q9) "I feel confident at diagnosing vestibular migraine" Answered: 119, skipped: 9	Strongly agree	26 (21.85%)
		Agree	54 (45.38%)
		Neither agree or disagree	26 (21.85%)
		Disagree	12 (10.08%)
		Strongly disagree	1 (0.84%)
Managing vestibular migraine			
9	Having diagnosed vestibular migraine sufficiently severe to consider treatment, I … Answered: 128, skipped: 0	Do not diagnose patient with vestibular migraine (go straight to Q13)	6 (4.69%)
		Refer directly to neurology	32 (25.00%)
		Continue to manage in ENT	35 (27.34%)
		Discharge with advice to the GP	44 (34.38%)
		Other (please specify)	11 (8.59%)
10	If you refer on or discharge to the GP, do you start any initial treatment? Answered: 117, skipped: 11	No	18 (15.38%)
		Yes – lifestyle advice only	35 (29.91%)
		Yes – medication only	5 (4.27%)
		Yes – lifestyle and medication	59 (50.43%)
11	What management options do you consider for treating vestibular migraine? Answered: 118, skipped: 10	Lifestyle advice e.g. diet, sleep, stress	108 (91.53%)
		Vestibular rehabilitation	46 (38.98%)
		Psychological therapy	226 (2.03%)
		Medication	93 (78.81%)
		Other (free text)	13 answered
12	If you prescribe medications for vestibular migraine, what do you prescribe? (multi-select) Answered: 86, skipped: 42	Beta blockers	45 (52.33%)
		Calcium channel blockers	6 (6.98%)
		SSRI/SNRI	8 (9.30%)
		Tricyclic antidepressants	44 (51.16%)
		Anti-epileptics	4 (4.65%)
		Triptans	41 (47.67%)
		Anti-emetics	18 (20.93%)

Continued.

Survey questions		Answer options	
		NSAIDS	9 (10.47%)
		Paracetamol	11 (12.79%)
		Other (free text)	22 answered
Patient information			
13	Do you generally provide patients with information leaflets about vertigo/dizziness? Answered: 128, skipped: 0	Yes	75 (58.59%)
		No	53 (41.41%)
14	If yes, do you have leaflets specifically for vestibular migraine? Answered: 119, skipped: 9	Yes	20 (16.81%)
		No	82 (68.91%)
		Not sure	17 (14.29%)
15	Do you have any other comments? Answered: 26, skipped: 102	Free text	26 answered

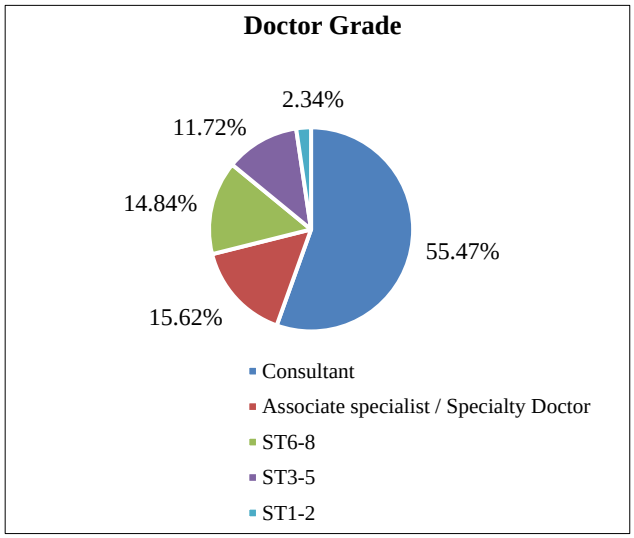

Figure 3: Doctor grade.

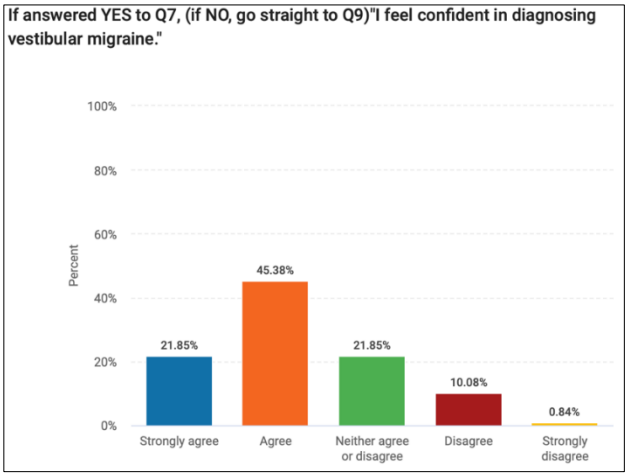

Figure 4: Survey response to: confidence in diagnosing vestibular migraine.

Some questions allowed for free text responses. Questions 9 relates to onward referral patterns (if any) having diagnosed VM. One response that was not anticipated was referring to audiovestibular medicine; a great resource, however one which not all clinicians will have access to.

Nine responders commented that they would only diagnose but not start any management beyond lifestyle advice. Two commented stating that they would suggest a medication for the GP to commence but would not start this themselves. Further medications clinicians stated they used which were not included in our list were; aspirin, vitamin B2, magnesium, co-enzyme q10.

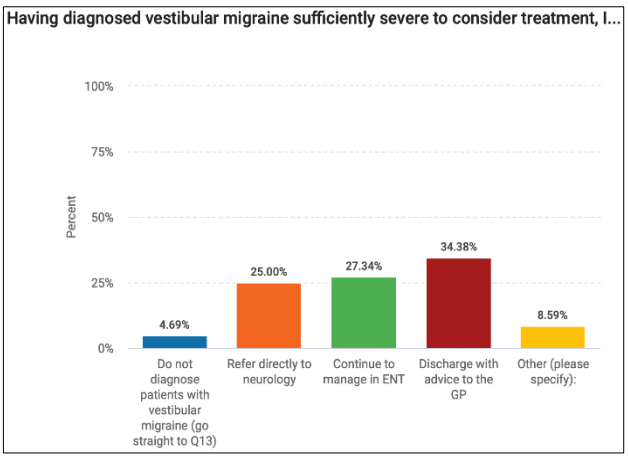

Figure 5: Survey response to: management of vestibular migraine.

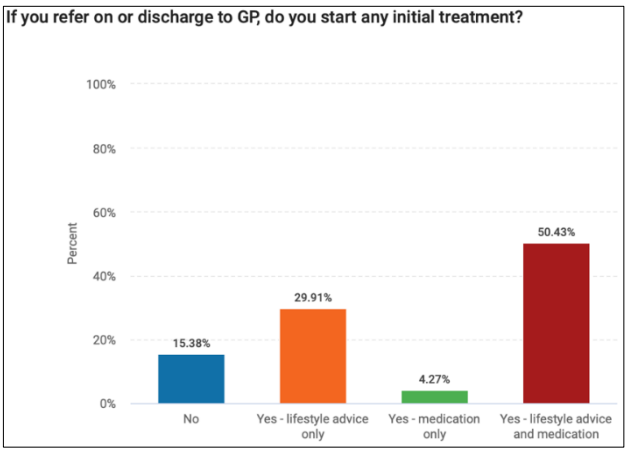

Figure 6: Survey response to: starting initial treatment.

The general comment section identified that many clinicians think a leaflet would be useful, in particular, having an ENT UK leaflet to direct patients towards would be a helpful resource, as their own trusts often do not have one.

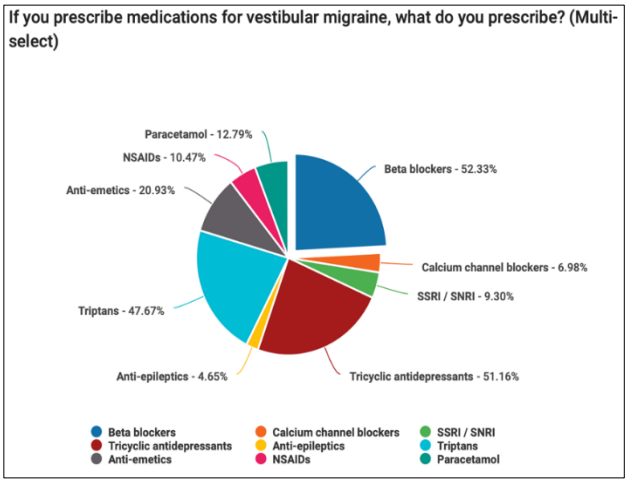

Figure 7: Survey response to: medication choices for managing vestibular migraine.

Migraine protocol freedom of information (FoI) requests

All 67 FoI requests to the Integrated Health Boards of England, Health Boards of Wales, Health and Social Care Boards of Scotland, and the Health and Social Care Trusts of Northern Ireland were replied to (Table 3). Six responders were not able to comment as they did not hold this information.

Table 3: Freedom of information responses.

Yes/no	Migraine protocol	Vestibular migraine protocol	Not able to comment
Yes	26	4	6
No	35	57	

No hospital had a vestibular migraine protocol, without having a classic migraine protocol. When provided in the response, the migraine protocols were similar in design, but a thorough analysis of the migraine protocols themselves was beyond the scope of this study.

DISCUSSION

From our survey, we received relatively balanced responses from consultants and non-consultants (55.47% versus 44.03%) and of otology and non-otology sub-speciality interests (53.12% versus 46.88%). This represents a broad cross-section of the ENT community and although the selective nature of survey-respondents introduces an element of bias, we believe the survey findings are a useful guide to how UK ENT clinicians manage VM. Responses likely over-estimate the proportion of clinicians who would initiate treatment for VM, due to relative over-representation of otology specialists who are likely more familiar with the management of VM.

A large majority of survey responders agree that VM is distant clinical entity. It is interestingly therefore, that only 4 health boards mention the condition within their migraine protocol, or indeed have a separate protocol for the condition. This appears to be reflected in the majority (75.0%) of respondents stating they were not aware of a VM protocol at their trust. This may be due to migraine protocols being written predominantly by neurologists for use with neurology patients or in primary care. Perhaps this represents an opportunity for ENT as a speciality to become more involved in protocol/guideline developments for the condition.

There was variable awareness/usage of the "Barany/International Headache Society" criteria with only 39.1% of responders using them to diagnose the condition. Despite this, 67.23% (26 and 54 out of 119 as 9 skipped this question) stated they were confident in diagnosing the condition. This suggests clinicians can identify VM, independent of the formal criteria. However, on diagnosis, a reasonable size minority refer to neurology (25%) or do not initiate treatment (15.38%). Therefore, one may argue there is further scope to not only increase awareness, but also to improve rates of treatment initiation prior to onwards referral especially when patients face ever-increasing out-patient wait times.[15]

There was a wide variation in referral pattern from diagnosing the condition. The survey also identified a wide disparity of prescribing with a total of 13 different drugs/classes of drugs suggested by respondents, however, these reflect those listed in our literature search.

Limitations

There was significant geographical variation in response rates with over-representation of the Thames-Valley area. This may have also affected the response for speciality vertigo/dizzy clinics. In question 10, 11, 12 and 14, we did not have the full 128 complement of people responding, which slightly reduced our sample size for these questions.

CONCLUSION

This study was not intended to define a management protocol for ENT clinicians to follow, rather it presents an overview of current practice and highlights areas for development as a specialty. The lack of consensus on optimal treatment demonstrated by our literature review partly explains the variety in management options that are given to patients nationally. The low proportion of IHBs with vestibular migraine protocols highlights an opportunity for strengthened guidance to aid clinicians in earlier treatment initiation and reduce the need for onwards referrals.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Smyth D, Britton Z, Murdin L, Arshad Q, Kaski D. Vestibular migraine treatment: a comprehensive practical review. Brain. 2022;45:3741-54.
2. Bahmad F, DePalma SR, Merchant SN, Bezerra RL, Oliveira CA, Seidman CE, et al. Locus for familial migrainous vertigo disease maps to chromosome 5q35. Ann Otol Rhinol Laryngol. 2009;118:670-6.
3. Lee H, Jen JC, Wang H, Chen Z, Mamsa H, Sabatti C, et al. A genome-wide linkage scan of familial benign recurrent vertigo: linkage to 22q12 with evidence of heterogeneity. Hum Mol Genet. 2006;15:251-8.
4. Paz-Tamayo A, Perez-Carpena P, Lopez-Escamez JA. Systematic Review of Prevalence Studies and Familial Aggregation in Vestibular Migraine. Front Genet. 2020;11:954.
5. Chu CH, Liu CJ, Fuh JL, Shiao AS, Chen TJ, Wang SJ. Migraine is a risk factor for sudden sensorineural hearing loss: a nationwide population-based study. Cephalalgia. 2013;33:80-6.
6. Shin JH, Kim YK, Kim HJ, Kim JS. Altered brain metabolism in vestibular migraine: comparison of interictal and ictal findings. Cephalalgia. 2014;34:58-67.
7. Neuhauser H, Leopold M, Von Brevern M, Arnold G, Lempert T. The interrelations of migraine, vertigo, and migrainous vertigo. Neurology. 2001;56:436-41.
8. Cho SJ, Kim BK, Kim BS, Kim JM, Kim SK, Moon HS, et al. Vestibular migraine in multicenter neurology clinics according to the appendix criteria in the third beta edition of the International Classification of Headache Disorders. Cephalalgia. 2016;36:454-62.
9. Huang TC, Wang SJ, Kheradmand A. Vestibular migraine: An update on current understanding and future directions. Cephalalgia. 2020;40:107-21.
10. Lempert T, Olesen J, Furman J, Waterston J, Seemungal B, Carey J, et al. Vestibular migraine: diagnostic criteria. J Vestib Res. 2012;22:167-72.
11. Webster K, Dor A, Galbraith K, Kassem LH, Harrington-Benton N, Judd O, et al. Pharmacological interventions for prophylaxis of vestibular migraine. Cochrane Database Syst Rev. 2023:4:CD015187.
12. Byun YJ, Levy DA, Nguyen SA, Brennan E, Rizk HG. Treatment of Vestibular Migraine: A Systematic Review and Meta-analysis. Laryngoscope. 2021;131:186-94.
13. Byun YJ, Levy DA, Nguyen SA, Brennan E, Rizk HG. Treatment of Vestibular Migraine: A Systematic Review and Meta-analysis. Laryngoscope. 2021;131:186-94.
14. Smart Survey. The UK's Leading Survey Platform. Available at: https://www.smartsurvey.co.uk/. Accessed on 09 September 2024.
15. BMA. NHS backlog data analysis. 2022. Available at: https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures/nhs-backlog-data-analysis. Accessed on 21 June 2024.
16. Barany Society and International Headache Society Consensus Update, Vestibular Migraine: Diagnostic Criteria (Update). J Vestibul Res. 2022;32:1-6.

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