Current Demography and Treatment Strategy of Vestibular Migraine in Neurotologic Perspective

Kuei-You Lin[1,2,3]; Steven D. Rauch[2,3]

[1]Department of Otolaryngology, Shin Kong Wu Ho-Su Memorial Hospital, Taipei, Taiwan; [2]Department of Otolaryngology, Massachusetts Eye and Ear; [3]Department of Otolaryngology, Harvard Medical School, Boston, MA

Mass General Brigham Mass Eye and Ear

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

新光醫療財團法人 新光吳火獅紀念醫院 SHIN KONG WU HO SU MEMORIAL HOSPITAL

Introduction

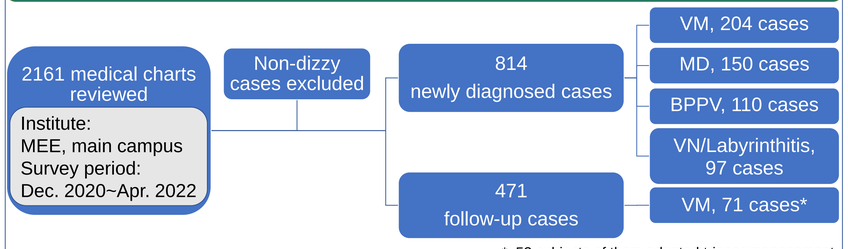
Background

- Migraineurs have long been noticed presenting balance disorders, like car/motion sickness and some episodic vertigo syndromes.
- With growing clinical awareness, the Bárány Society and the International Headache Society have recently proposed a diagnostic criteria for the migraine-associated vestibular syndrome, formally known as vestibular migraine (VM) now.
- Although VM is gaining more and more attentions now, it is still likely less appreciated and underestimated in clinical practice.

Objectives

1) To investigate the demographic data of VM in the specialized dizzy clinic of a tertiary referral neurotologic center.
2) To investigate the efficacy of trigger management regarding symptomatic control in VM patients of different sexes.
3) To determine if the hormonal factors influence the feasibility of trigger management in female VM patients.

Methodology



*: 53 subjects of them adopted trigger management as the primary VM treatment.

Figure 1 Flow chart of patient selection for demography investigation

Patient selection

- In tertiary referral vestibular clinic, a retrospective chart review study was conducted. The details are as shown in the flow chart (Figure 1).

Diagnosis Criteria

- The diagnosis of included diseases, *i.e.*, VM, Ménière's disease (MD), benign paroxysmal positional vertigo (BPPV) and vestibular neuritis (VN)/labyrinthitis were based on the latest international criteria and consensus. Of note, Only recurrent, treatment-resistant, or otherwise complex cases of BPPV were seen in the specific clinic practice.

Treatment of VM Patients

- VM patients undergoing multiple clinic visits during the study period were included for assessment of the VM treatment strategy. Only those who adopt trigger management alone as primary treatment received the efficacy analysis of trigger management.
- Treatment efficacy was judged by patient-centered outcome.

Results

Demographics of common vestibulopathies

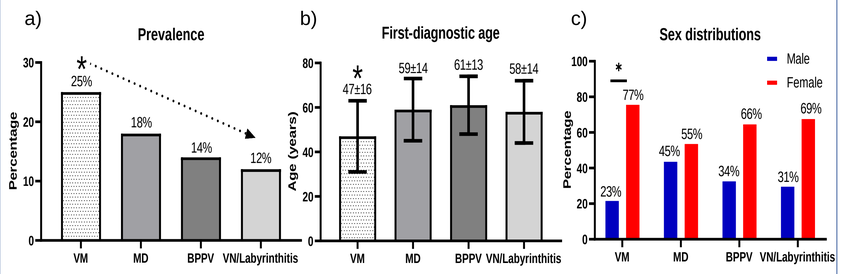


Figure 2 Demographics of common vestibulopathies

- Among the newly diagnosed dizzy patients, the four surveyed vestibular diseases demonstrated a significant declining trend regarding the prevalence showing that VM would be the most common dizzy problem in our tertiary referral vestibular clinic (p <.001, Cochran-Armitage test for trend Figure 2a).
- In addition to the prevalence, VM group also demonstrated a significantly younger age (47±16 years) than the three other groups. (p <.001, one-way ANOVA test with Bonferroni's post-hoc test, Figure 2b).
- Although all the surveyed diseases tended to be diagnosed more in women than men. Only VM group demonstrated a significant female preponderance, showing a female-to-male ratio of 3.3:1 *(p <.05, Chi-square test, Figure 2c).*

Demographics of common vestibulopathies by age

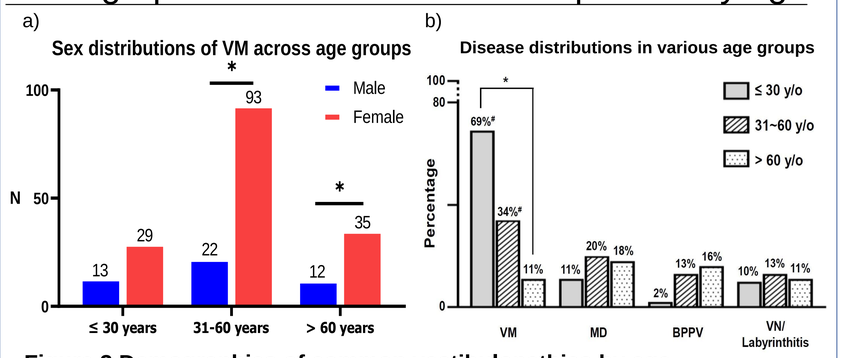


Figure 3 Demographics of common vestibulopathies by age

- After stratifications by age, further comparisons revealed a significant female preponderance in VM patients aged over 30 years. On the other hand, those aged under 30 years showed less female predominance (Figure 3a). Since migraine and VM share some mechanisms in common, the gradual escalation of female prevalence through adolescence to adult period in migraine group might partially explain such phenomenon.
- The prevalence of VM was 69% in patients aged < 30 years and declined significantly across age *(p <.001, Cochran-Armitage test, Figure 3b)*
- The decline in VM proportion within the population of all dizzy patients as a function of advancing age may be partially due to the age-related increase of other diagnoses.

Treatment of VM patients

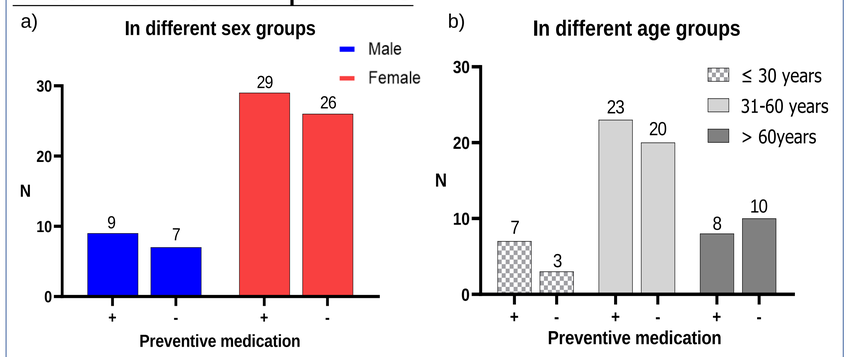


Figure 4 The need for preventive medication in VM patients

- The need for preventive medications discriminated insignificantly between sexes (Figure 4a). On the other hand, elder patients appeared less dependent on the preventive medication (Figure 4b), possibly due to the potential hormonal effect on VM.

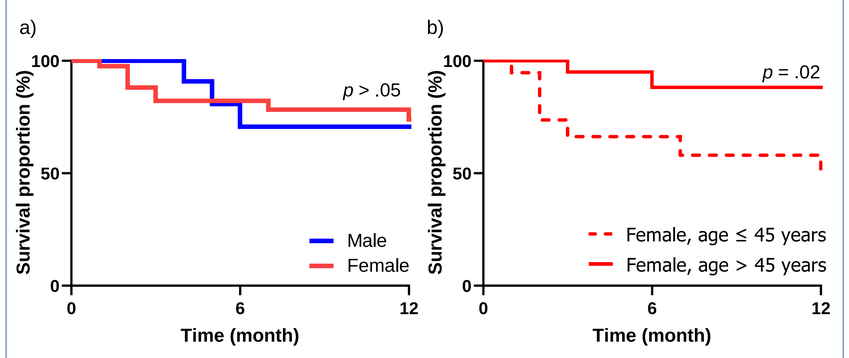


Figure 5 Efficacy of trigger management in VM patients

- Over 70% of both male and female patients could achieve adequate symptom control with trigger management alone by the end of the first-year treatment course (Figure 5a).
- For women, trigger management during 12 months of follow-up appeared more effective for those aged over 45 years than under 45 years (Figure 5b), likely because of the concomitant stabilization of their reproductive hormone status.

Conclusion

- In our tertiary referral neurotologic center, VM was the most common diagnosis in newly diagnosed dizzy patients aged under 60 years, especially in women.
- Trigger management was found to be effective in large subset of VM patients, with better response in women over than under age 45.
- Trigger management could be considered as appropriate primary VM treatment because it has virtually no risk yet achieves a substantial symptom control rate.

Acknowledgement

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