Made Easy®

Management of Vertigo

Made Easy®

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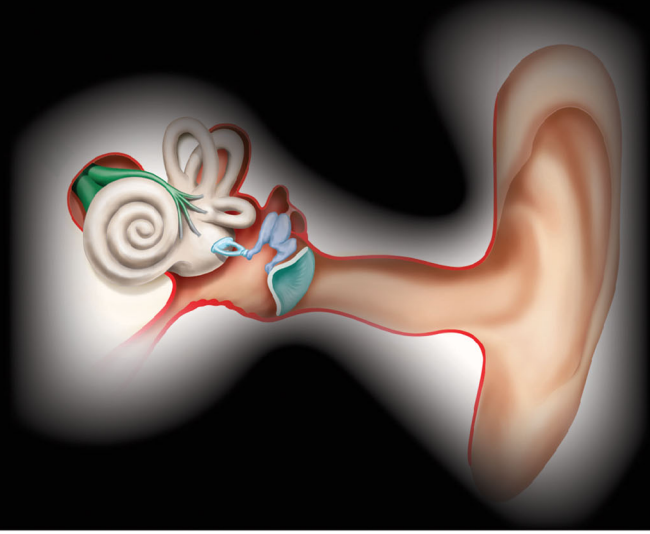

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CHAPTER 4

Diagnosis of Vertigo from History

The reasons for good history taking are:

- To get a diagnosis.
- Taking a good history is a part of treatment.
- The patient feels you are interested for the problem solving.
- When we give reassurance, which hopefully we will be able to give at the end, patients are able to accept the reassurance and take comfort from it.
- To be a proper doctor.

Two important causes of failure to manage the vertigo patients:

1. Reluctance to take a good history.
2. Failure to think about pathology.
   When you are taking a history you begin at the beginning.

THINGS ABOUT DIZZY SPELLS

- Are they spells or is it just one attack?
- Are they of sudden onset when they come?
- Are they associated with other symptoms such as nausea, vomiting, deafness or tinnitus?
- Do they stop suddenly or gradually?
- How is the patient between attacks?
- Ask the patient when was the last time, they were perfectly stable and free from dizziness.
- Try to get a clear, coherent and chronological history to get a right diagnosis.

ASSESS THE PROBLEM

- Find out the details of the inconvenience that the patient experiences from the dizziness.
- Start assessing the problem when the patient is coming into your consulting chamber.
- Did he walk in unaided or did he stagger in or did somebody help him in?
- How much problems interferes with his everyday life.

If we are reluctant to take the history, then there is failure to think about the pathology.

Investigations are no substitute for a good history.

Key Points Behind Good History Taking

- Begin at the beginning.
- Stay in control.
- Assess the extent of the problem.
- Investigations are no substitute.
- A good history is a part of the treatment.

HISTORY TELLS DIAGNOSIS

- History of vertigo, vomiting, tinnitus and deafness refers to Ménière's disease.
- History of vertigo during changing head position refers to BPPV.
- History of cough, cold, fever followed by vertigo and deafness refers to viral labyrinthitis.
- History of cough, cold, fever followed by vertigo but no deafness refers to vestibular neuronitis.

Onset of Vertigo

Ask is this the first attack or recurrent?

- If recurrent vertigo
  - Ménière's disease.

  - Migraine.
  - Hypoglycemia.
- If non-recurrent vertigo
  - Vestibular neuronitis.
  - Drug-induced.
  - Labyrinthitis.
- In case of chronic vertigo suspect
  - Brain tumor.
  - Hypertension.
  - Diabetes.
  - Head injury, etc.

Drug History

Drugs causing vertigo are

- Antiepileptic.
- Antirheumatic.
- Antihypertensive.
- Antidiabetic.
- Aminoglycosides.
- Barbiturates, etc.

Past history of head injury, surgery and fever must be asked.

Personal History

Personal history of

- Blood pressure (High or low).
- Diabetes.
- Alcohol.
- Tobacco.
- Otorrhea.
- Cervical spondylosis.
- Heart disease.
- Arthritis, etc.

The simplified approach to dizzy patients was first described by Drachmann in 1972. The dizziness can be described in four forms:

1. *Dizziness type-1 or true vertigo:*
   - It is a vestibular problem, either peripheral or central connections.
   - The patient describes spinning or a definite rotatory feeling, typically precipitated by fast head movement, getting up or lying down and even turning in bed.
2. *Dizziness type-2 or presyncope:*
   It is essentially cardiovascular and the patient feels faintness or darkness before his eyes, when upright or on getting up.
   Causes are:
   - Postural hypotension (Confirmed by checking BP in supine and standing position).
   - Vasovagal attacks.
   - Hyperventilation.
   - Low cardiac output states.
3. *Dizziness type-3:*
   - It is basically unsteadiness or incoordinates of gait or feeling of loss of balance.
   - It typically occurs when the patients stands up or walks and is worsened by uneven ground or turning.
   - It never occurs when sitting or lying in bed.

   Causes: Mostly neurological. These are:
   - Gait ataxia.
   - Parkinsonism and other extrapyramidal disorders.
   - Cerebellar ataxia.
   - Myelopathy (e.g. cervical spondylotic myelopathy).
   - Neuropathy.
   - In the elderly, it can be due to impairment of multiple sensory organs, including vision, vestibular and peripheral neuropathy as well as chronic cerebral ischemia.

4. *Dizziness type-4:*
    - It is predominantly psychogenic.
    - The patient may be vague or describe numbness or heaviness or light feeling in the head.
    - It is actually an abnormal sensation in head, not fitting into the earlier three types.

Traditional Symptomatic Approach

- True Vertigo-Vestibular—Ear problem.
- Presyncope-Cardiovascular—Medical/Cardiological problem.
- Disequilibrium-Neurological-Neuro problem.
- Nonspecific dizziness—Psychiatric–No problem.

Certain aggravating factors trigger the vertigo and are helpful for the diagnosis of specific type of vertigo (**Table 4.1**).

Associated Features Suggesting a Central Cause of Vertigo (Box 4.1)

Ds

- Diplopia.
- Dysarthria.
- Dysphagia.
- Dysphonia.
- Dysmetria.
- Dysesthesia.
- Drop attacks.
- Down-is-up distortions (room tilt illusions).

Table 4.1 Triggers often give important clue for diagnosis

Trigger	*Possible diagnosis*
When turning in bed	True vertigo, e.g. BPPV
When getting up suddenly	Postural hypotension
When walking or turning	Type-3 or balance disorder
When tired or stressed out	Type-4 or presyncope

Box 4.1 Indicators of central causes of vertigo

- Focal neurological symptoms/signs (Deadly Ds—diplopia, dysarthria, dysphagia)
- Ataxia out of proportion to vertigo
- Nystagmus-Pure vertical (upbeating or downbeating), direction changing or gaze evoked and other eye movement abnormalities, e.g. gaze palsy, skew deviation (vertical misalignment of the eyes)
- Sudden, severe or sustained head or neck pain

Table 4.2 Duration of the vertiginous event

Acute long duration (Peripheral)	Vestibular neuritis, labyrinthitis, labyrinthine ischemia, labyrinthine concussion
Acute long duration (Central)	Cerebellar infarct, cerebellar hemorrhage, brainstem infarct, multiple sclerosis
Recurrent long duration (Peripheral)	Autoimmune inner ear disease, Ménière's disease, vestibular neuritis (recurrent)
Recurrent long duration (Pentral)	Vertebrobasilar ischemia, multiple sclerosis, migraine
Recurrent brief duration (Peripheral)	BPPV, superior canal dehiscence
Recurrent brief duration (Central)	Cerebellar tumor, cerebellar atrophy, multiple sclerosis

Diagnosis from Duration of Vertigo (Table 4.2)

- *If it is less than a second:* This is typically motion sensitivity or a feeling of transient dizziness on sudden movement, often only in one direction. The cause is typically old unilateral vestibular deficit, migraine or psychogenic. The patient may feel the need to hold on for support suddenly.
- *Transient vertigo lasting a few second:* It is typically positional and the most common cause is BPPV. There are also central

Table 4.3 Characteristic of peripheral and central vertigo

Characteristics	*Peripheral*	*Central*
• Overall illness	Looks worse	Milder illness
• Vertigo	More	Less
• Ataxia	Less	More
• Tinnitus/deafness/ear pain	Often present	Usually absent
• Diplopia/dysarthria/ sensory or motor symptoms, Horner's syndrome	Not present	Usually present
• Nystagmus pattern	Unidirectional, horizontal, rotatory	Direction changing
• Nausea, vomiting	May be severe	Varies

causes of which migraine is quite common, but there are some rare causes like TIA, posterior fossa tumor and demyelination.

- *Transient vertigo lasting a few minutes:* It is uncommon, but we need to consider a vertebrobasilar transient ischemic attack (TIA) or migraine or psychogenic. Even if the patient does not have diplopia or dysartheria or other neurological symptom and has vertigo or vertigo with tinnitus or deafness lasting for a few minutes, we need to keep in mind the possibility of a TIA, and therefore the possibility of a dangerous stroke occurring later.
- *Short attacks of vertigo lasting minutes to hours:* It may occur in Ménière's disease, migraine, stroke or psychogenic.
- *Vertigo for days to weeks:* Seen in acute peripheral vestibulopathy, migraine, psychogenic.
- Continuous vertigo for weeks is usually psychogenic.

Peripheral vertigo and central vertigo are differentiated from certain clinical features and history **(Tables 4.3 and 4.4)**.

CLINICAL TIPS

The three most important things in the management of vertigo are History, History and History only must be for the management of vertigo.

Table 4.4 Vertigo of peripheral and central origin from patient history

Peripheral	*Central*
• A definitive sensation of movement is present	• The vertigo is mild and more like unsteadiness
• Vertigo is severe and paroxysmal	• Vague, no specific onset or termination
• The attacks last from minutes to days	• The attacks of vertigo lasts for weeks
• Nystagmus and associated vestibular symptoms are common	• Often no apparent nystagmus
• *Presentation:* Severe rotating or spinning sensation usually with nausea and vomiting	• Imbalance, lightheadedness, disorientation
• Consciousness maintained	• Consciousness may be lost
• *Presence of systemic disorders:* Usually absent	• Often diabetes, hypertension, atherosclerosis present
• *Progress of disease:* Improves as peripheral lesions are self-limiting and central compensation takes place	• Patient usually goes downhill and symptoms increase
• *Associated features:* Aural symptoms such as deafness, tinnitus, nausea and vomiting are often present	• Neurological features such as diplopia, headache, motor/sensory loss present

VERTIGO DIAGNOSIS

- Vertigo → History and physical examination → Blood pressure (Lying and supine) → Orthostatic → Diagnosis of orthostatic hypotension.
- Vertigo → Irregular pulse → Diagnosis of cardiac arrthythmia.
- Vertigo → Abnormal neurological examination → Differential diagnosis of CVA, CNS drugs, multiple sclerosis.
- Vertigo → History of cervical spine trauma → Yes → Vertigo-induced by position change → Yes → *Diagnosis:* BPPV.
- Vertigo → History of recent viral illness → Yes → *Diagnosis:* Viral labyrinthitis.

Box 4.2 Vertigo with deafness

Differential diagnosis
- Ménière's disease
- Labyrinthitis
- Acoustic neuroma
- Labyrinthine trauma
- Perilymph fistula
- Ototoxicity

Box 4.3 Vertigo without deafness

- Vestibular neuronitis
- Benign paroxysmal vertigo
- Ototoxicity to the vestibule
- Motion sickness

- Vertigo → *Drug history:* antibiotics, diuretics or chemotherapy → Yes → *Diagnosis:* Toxic labyrinthitis.
- Vertigo → History of trauma → Yes → Barotrauma/Head trauma → *Diagnosis:* Round window rupture (In case of Barotrauma); temporal bone trauma (In head trauma).
- Vertigo → History of hearing loss → *Differential diagnosis:* Ménière's disease, acoustic neuroma, toxic labyrinthitis, neurosyphilis **(Boxes 4.2 and 4.3)**.

Management of Vertigo Made Easy®

Salient Features

- Provides a simple and mathematical approach for management of vertigo patients
- Describes basic concepts in assessing, diagnosing and managing common peripheral vestibular disorders and special emphasis is given on how to rule out central vertigo
- Simplifies difficult concept of vertigo by stepwise approach
- Provides a chapter for General Practitioners (GP) to handle the vertigo patients
- Includes the interesting case series in separate chapter for understanding the dizzy patients
- Clinical Tips and Points to Remember are special addition for making this book an easy to read for the beginners
- Acts as the catalyst for medical students, young doctors, interns, otolaryngologists, physicians, neurologists, for managing vertigo patients.

Santosh Kumar Swain graduated from Sriram Chandra Bhanj (SCB) Medical College and Hospital, Utkal University, Cuttack, Odisha, India; passed MS (ENT) from Veer Surendra Sai (VSS) Medical College and Hospital, Burla, Sambalpur, Odisha and DNB (ENT) from National Board of Examination, New Delhi. He did Fellowship in Neuro-otology offered by Neuro-otological and Equilibriometric Society of India. He completed Senior Residency from Christian Medical College, Vellore, Tamil Nadu. He is the Member of National Academy of Medical Sciences (MNAMS). He has delivered several lectures in different national and international conferences. He has published many articles in national and international journals. He is the author of *Most Common Points in ENT and Head & Neck Surgery, Snapshot in ENT and Head & Neck Surgery, Introduction to Nose and Sinus Clinic, Review & MCQ in ENT, and Points to Remember in ENT* and *Question Bank in ENT*. He has special interest in endoscopic sinus surgery, microear surgery, microlaryngeal surgery, head and neck cancer surgery, and vertigo management.

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