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Functional Dizziness (FD) and its different syndromes

- An update on the current scenario

- Phobic Postural Vertigo (PPV)
- Visual Vertigo (VV)
- Chronic Subjective Dizziness (CSD)
- Space Motion Discomfort (SMD)
- Persistent Perceptive Postural Dizziness (PPPD)

• What do they have in common?
• How do they differ?
• Our experience with FD
Functional Dizziness

- Is defined positively (i.e., by the presence of identifiable and unique sets of symptoms) and not negatively (i.e., by the absence of structural deficits)

- Is a NEUROTOLOGICAL disorder with behavioural elements, is not primarily a psychiatric disorder

Non spinning Vertigo - a false or distorted sensation of self-movement

Unsteadiness - a feeling of rocking or swaying when upright

Dizziness - a non-motion sensation of disordered spatial orientation.
“Functional dizziness is the 2nd most common diagnosis made in the tertiary neurotology centres that have adopted procedures to identify it; just behind BPPV and ahead of Vestibular Migrane”

-Jeffrey P Stabb,(2012), Chronic Subjective Dizziness,
Continuum Lifelong Learning Neurol 2012;18(5):1118 (American Academy of Neurology)
INCIDENCE of Functional Dizziness at German Center for Vertigo and Balance Disorders, Munich, Germany

Brandt et al., 2013.

n=17700

- FUNCTIONAL DIZZINESS
- OTHERS
INCIDENCE

of Functional Dizziness in another tertiary Dizziness unit

n=3113

INCIDENCE
of Functional Dizziness in Paediatric population

n=100

FUNCTIONAL DIZZINESS
OTHERS

INCIDENCE

of Functional Dizziness at Vertigo and Deafness Clinic, Kolkata, India

n=15400

FUNCTIONAL DIZZINESS

OTHERS
Vestibular disorders can be classified into 3 types

- Structural
- Functional
- Psychiatric

• each may occur independently or in combination

• when in combination one may be the cause /consequence/complication of the other


For diagnostic criteria of Psychiatric disorder that cause vestibular symptom refer to ICD -10 (WHO, 1995) and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, American Psychiatric Association, 2013).
VESTIBULAR DISORDERS

Structural or cellular
Psychiatric
Functional

Types of Functional Dizziness

- **Chronic Subjective Dizziness (CSD)**
  - Termined in U.S.A.
  - *Stabb (2004, 07)*
  - Space Motion Discomfort (SMD)

- **Phobic Postural Vertigo (PPV)**
  - Termined in Germany.
  - *Thomas Brandt (1996)*
  - Visual Induced Dizziness (VID)

- **Persistent Perceptive Postural Dizziness (PPPD)**
  - *Brandt & Dieterich (1986)*

**What is the difference??**
Phobic Postural Vertigo

Def: - Postural Dizziness + Fluctuating unsteadiness provoked by environmental stimuli with mild anxiety-depression-OCD traits

Diagnostic criteria

A) Postural dizziness provoked by motion (self/surrounding) stimuli.
B) Anxiety related Afferent Efferent Mismatch
C) Triggered by
   i) Vestibular disorders
   ii) Medical illness
   iii) Psychological stress.
D) Personality trait - Labile affect/Pseudobulbar affect/Emotional incontinence, Obsessive-compulsive trait

conscious awareness of discrepancies between anticipated and actual movements that occur transiently in the course of normal voluntary motion

a disorder where the patient has excessive displays of emotion, or expresses emotions that are not congruent with the situation
Chronic Subjective Dizziness (CSD)

Def: persistent non-vertiginous dizziness or unsteadiness, heightened sensitivity to motion of self or objects in the environment, and difficulty performing tasks that require precise visual focus.

Diagnostic criteria

A) Postural dizziness provoked by sensory & emotional stimuli.
B) Difficulty with precision visual tasks such as reading or using a computer / reading messages in a mobile phone.
C) Triggered by
   i) Neurotological disease
   ii) Medical illness
   iii) Psychiatric illness.
D) Personality trait- Anxious & Introvert personality.
E) Diurnal variation more during day lesser in morning.
Chronic Subjective Dizziness (CSD)

Exacerbated by
Pathophysiology of CSD

Acute vestibular lesion or acute anxiety/panic attacks

Acute adaptation strategies by brain to maintain postural control.

Increased visual and somatosensory dependence

Predisposing anxiety / depression

Hypersensitivity to provocative motion stimuli (both for the self and the environment)

Postural control systems drawn into a perpetual state of failed re-adaptation
Space Motion Discomfort (SMD)

Def: Is a combination of uneasiness about spatial orientation and increased awareness of motion stimuli

Diagnostic criteria

i) Precipitated by
   a) Movements: Active or passive movement in visually-rich environments. (walking down a supermarket aisle, riding in a vehicle)
   b) Stationary: Exposure to moving or patterned objects in the environment (passing traffic, striped curtains, or crowds of people).

ii) Common in pts with anxiety disorders
Visual Induced Dizziness

i) Occurs only after an acute peripheral or central vestibular lesion
ii) Symptoms: - sensations of unsteadiness or dizziness on exposure to complex or moving visual stimuli.
iii) not provoked by upright posture which differentiates it from PPV / CSD
iv) situation provoked but persistent in nature like SMD
v) Pathophysiology: a) Visual Dependance b) Visual Vestibular Mismatch (VVM), c) increased vigilance about vestibular symptoms

Earlier


Diagnostic criteria
What’s common ??

1) Longstanding/ chronic ailment
2) cc: Unsteadiness /Dizziness/ Non-spinning Vertigo
3) Provoked by Active/Passive motion/ Moving Visual Stimuli
4) Stimulated by recent or past Vestibular syndromes and even by conditions like falls / syncope .
5) Normal findings in clinical tests of balance
All of these are functional abnormalities of the vestibular system i.e., are behavioral abnormalities with Neurotological manifestations.

Most if not all are triggered by a vestibular event.

All are unrelated to the organic disorders of the vestibular system (MD, VM, BPPV, VN) which may have just triggered this chronic disorder but is no longer there now.
The current consensus

PERSISTENT POSTURAL PERCEPTIVE DIZZINESS
Persistent Perceptive Postural Dizziness

**Diagnostic criteria**

A. One or more symptoms of **dizziness, unsteadiness, or non-spinning vertigo** are present on most days for 3 months or more.

B. Unprovoked persistent symptoms, but are **exacerbated by upright posture/ self-motion/ moving visual field**

C. Precipitated by conditions causing vestibular disorders / neurological disorders / psychological illnesses / other medical illnesses

D. Symptoms cause **significant distress or functional impairment**.

E. Symptoms are not better accounted for by another disease or disorder.

“Presence of all the 5 conditions is a MUST for diagnosis of PPPD”
Persistent Perceptive Postural Dizziness

**Exacerbating factors**
1. Upright posture
2. Active or passive motion
3. Exposure to moving visual stimuli or complex visual pattern

**Precipitating factors**
1. Conditions causing vertigo, unsteadiness, dizziness,
2. Neurologic or medical illnesses,
3. Autonomic disorders
4. Psychological distress.

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Differential Diagnosis

**Episodic ataxia**

**Vestibular paroxymia**

**Peripheral neuropathy**

**Bilateral vestibulopathy**

**Vestibular migraine**

**Neurodegenerative disorders**
(spino-cerebellar ataxias, multisystem atrophy, extrapyramidal disorders)

**Central vestibular syndromes**

**Mal debarquement syndrome**

**Autonomic dysregulation / autonomic neuropathy.**
Serotonergic drugs are the principal pharmacologic treatment for PPPD, should be started at LOW does and increased MORE SLOWLY than usual for best results.
<table>
<thead>
<tr>
<th>SN</th>
<th>Questions</th>
<th>Yes</th>
<th>No</th>
<th>sometime</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Do you feel unstable, while standing and /or walking?</td>
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<td>2</td>
<td>Do you feel inability to maintain your posture in relation to surrounding environment?</td>
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<td>3</td>
<td>Do you feel sensation of yourself bouncing/rocking/swaying and /or the surrounding bouncing ?</td>
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<td>4</td>
<td>Do your symptoms persist &gt; 15 days/month</td>
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<td>5</td>
<td>Are there fluctuations (waxing and waning) of your symptoms?</td>
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<td>6</td>
<td>Do you feel better in the morning and the symptoms get worse as the day progresses?</td>
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<td>7</td>
<td>Are your symptoms persisting for &gt; 3 months</td>
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<td>8</td>
<td>Does your feeling of instability / dizziness/ non-spinning vertigo have recurrent flare-ups i.e., sudden increase in symptoms for short periods??</td>
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<td>9</td>
<td>Does your symptoms get worse while standing or while walking but you are perfectly comfortable when lying or sitting?</td>
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<td>10</td>
<td>Does your symptoms get worse, when you are in active motion i.e., you yourself are moving for e.g., walking/ running, when riding a vehicle e.g., car / cycle or when you ascending / descending in a lift.</td>
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<td>11</td>
<td>Does your symptoms get worse, when you see small objects from a close distance e.g. working in a computer / in a mobile phone / reading books.</td>
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<td>12</td>
<td>Does your symptoms get worse, when you see moving visual fields like crowds of people in a shopping mall / or fast moving vehicles in traffic?</td>
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<td>13</td>
<td>Did you have an symptoms of anxiety,fear or psychological stress prior to symptoms.</td>
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<td>14</td>
<td>Does your symptoms get worse, when you see large visual fields like open fields /warehouses?</td>
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<td>15</td>
<td>Did you have some illness like Vestibular disorders e.g., B.P.P.V / Autonomic disorders orthostatic hypotension/ neurocardiogenic syncope(sinking sensation), some neurologic disease where there was instability / headspinning like head injury/ stroke following which your symptoms of dizziness/ unsteadiness/ non-spinning vertigo have started ??</td>
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<td>16</td>
<td>Do you have feeling of loss of interest, or change in appetite, fatigue.</td>
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<td>17</td>
<td>Do your symptom occur, when you are exposed to a particular provocative situations like crossing a speedbreaker on motocycle or moving in rough roads?</td>
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<td>18</td>
<td>Do your symptom aggravates when exposed to complex visual stimuli like in striped curtains?</td>
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<td>19</td>
<td>Have you ever been diagnosed with Obsessive Compulsive disorder or if not then do you get repeated and persistent unreasonable thoughts leading to repetitive behavior like repeatedly washing your hands as you are obsessed that there are germs in your hands, or you repeatedly check the door locks at night as you are obsessed with a feeling of being unsafe?.</td>
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<td>20</td>
<td>Do you like to stay away from social gatherings &amp; feel more comfortable and happy staying away from social functions where you can interact with people and prefer being left alone??</td>
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<td>21</td>
<td>. Does sitting in a chair or bed without any support exacerbates their symptoms??</td>
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<td>22</td>
<td>Do your symptoms immediately cease once the provoking/triggering factor (e.g., a curtain in a wall that was provoking your dizziness) is removed</td>
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<td>23</td>
<td>Do you feel the severity of your symptoms decrease when you sit or lie down in bed?</td>
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<tr>
<td>24</td>
<td>Do you feel that intensity of your symptoms drastically decrease or even disappear after merely touching a nearby object??</td>
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<tr>
<td>25</td>
<td>Do you feel aggravation of symptoms when you see large visual fields like open fields /warehouses??</td>
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</tbody>
</table>

1) For PPPD the questions 1,2,3,4,5,7,9,10,11,12,13,15, will have to be YES and questions ........ will have to be NO
2) For PPV the questions 1,2,3,5,8,9,10,11,12,13,14,15,16,19 will have to be YES and questions........... will have to be NO
3) For SMD the questions 1,2,3,10,11,12,13,14,15,17 will have to be YES and questions ........... will have to be NO
4) For VID the questions 1,2,3,10,11,12,13,15, 18, will have to be YES and questions.............. will have to be NO
5) For CSD the questions 1,2,3,7,9,10,11,12,13,14,15, 18will have to be YES and questions ..........will have to be NO
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9) For VID the questions 1,2,3,10,11,12,13,15, 18, will have to be YES and questions.............. will have to be NO
10) For CSD the questions 1,2,3,7,9,10,11,12,13,14,15, 18will have to be YES and questions ..........will have to be NO
Virtual Reality (VR) in vestibular physiotherapy
Managing FD at VERTIGO & DEAFNESS CLINIC, Kolkata, India

**Drugs**
- ETIZOLAM 0.25 OD X5 days- BD X10days then 0.5mg BD for 6 weeks
- ESCITALOPRAM 5mg 4weeks then 10mg X10 wksOD

**Physical Therapy**
- Desensitisation
- Stabilometry
- Virtual reality
- Balance enhancement

**Psychological**
- Psychotherapy /counselling
- Cognitive Behavioural therapy (CBT)
- Patient education

ALL TREATMENT IS CUSTOMISED FOR INDIVIDUAL PATIENTS
Our results with PPPD at Vertigo & Deafness Clinic

In a period of 3yrs from April 2016 to Feb 2019
Total new patients 4000:-
Cases diagnosed as FD - 1190 (29.75%)

- PPV -547 (45.96%)
- CSD -419 (35.21%)
- SMD-23 (1.9%)
- VV -13 (1.09%)
- Undetermined FD- 188(15.8%)

Improvement after Vest physio+ Counselling:- 402 (33.8%)
Improvement after medication:- 551 (46.3%)
Non-satisfactory response :-rest 237 (19.9%)
BALANCE IN LIFE IS THE KEY TO EVERYTHING

THANK YOU