

## Phobic Postural Vertigo: A New Proposed Entity

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### Abstract

**Background:** Dizziness and vertigo can be a complaint in various psychiatric conditions where it usually constitutes only one of the features of the syndrome. Lately, a somatoform disorder characterized by almost mono-symptomatic dizziness and unsteadiness has been described. Since phobic postural vertigo usually presents without anxiety or other psychological symptomatology, patients with this condition seek help at neurologic and otolaryngologic clinics where they are often misdiagnosed as suffering from organic vertigo.

**Objectives:** To present the clinical features of 55 consecutive patients diagnosed with phobic postural vertigo at our clinic during 1998–2002.

**Methods:** We conducted a retrospective review of patients' medical records and report two typical cases for illustration.

**Results:** The patients presented with complaints of unsteadiness with or without dizziness, and attacks of sudden veering that caused them to grasp for support. Accompanying anxiety was admitted by only 5% and vegetative symptoms were reported in 18%. In 16% the symptoms resulted in avoidance behavior. A stressful life event or an unrelated somatic disease triggered the onset of PPV in 35% of patients, whereas a vestibular insult preceded the symptoms in 13%. The mean duration of symptoms was  $26.7 \pm 39.1$  months (range 0.5–20 years). In 72% of patients the symptoms resolved after the psychological mechanism of their symptoms was explained to them; 24% improved with antidepressant treatment (selective serotonin reuptake inhibitors or tricyclic antidepressants), and only in 4% did the symptoms persist.

**Conclusions:** Since PPV is a frequently encountered diagnosis at some specialized dizziness clinics, familiarity with this entity resulting in early diagnosis can avoid unnecessary examinations and lead to effective treatment.

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The association of dizziness, vertigo and psychiatric disorders is well known. Dizziness can be a complaint in depressive states, generalized anxiety disorder, somatization diseases, or even schizophrenia [1,2]. Dizziness is a major symptom in panic disorder and agoraphobia, where it constitutes one of the features for establishing the diagnosis [3,4]. Whereas in all the above conditions other psychiatric or somatic complaints dominate the clinical picture, a syndrome called phobic postural vertigo has been described where the complaint of dizziness and unsteadiness is almost mono-symptomatic and therefore not always easily diagnosed [5,6].

PPV = phobic postural vertigo

Brandt and Dietrich [5] were the first to describe this somatoform disorder, manifested by non-rotational vertigo and unsteadiness while standing and walking with superimposed episodes of short perceptions of body perturbations. These episodes occur spontaneously or may be triggered by perceptual stimuli such as driving or descending stairs, or by certain social situations like shopping centers or crowded places. The neurologic examination, as well as imaging, laboratory and balance tests, are normal. Despite its psychological origin, PPV is usually not accompanied by anxiety or panic. However, avoidance behavior sometimes occurs. Patients with PPV are often found to have obsessive-compulsive personality features, with strong ambitions and motivation. Surprisingly, PPV usually does not interfere with daily activities despite the patients' preoccupation with unsteadiness, but it commonly leads to the belief of an underlying severe disease, such as a brain tumor. PPV is a frequently diagnosed disorder at some dizziness clinics (the second most often diagnosed vertigo syndrome, according to Brandt) and physicians should familiarize themselves with this entity.

We present the clinical characteristic of patients diagnosed at our dizziness clinic as suffering from PPV. In view of the good therapeutic response once the nature of the disease is explained to the patient, this is not just an academic diagnosis. Moreover, early recognition of the syndrome may avoid extensive and costly investigations.

### Patients and Methods

The records of 55 consecutive patients with PPV who attended our dizziness clinic during the years 1998–2002 were reviewed. Table 1 summarizes the most often encountered vertigo syndromes and shows the frequency of PPV. The diagnosis was based on the criteria established by Brandt et al. [6]:

- Dizziness and subjective disturbance of balance while standing or walking, despite normal clinical balance tests such as Romberg, tandem walking, balancing on one foot, and routine posturography.
- Fluctuating, continuous unsteadiness or episodes lasting seconds to minutes, or momentary perceptions of illusory body perturbations.
- Although the attacks can occur spontaneously, there is usually a perceptual stimulus (bridge, staircase, empty room, street) or social situation (department store, crowd, restaurant, concert) from which the patients have difficulty withdrawing and which

**Table I.** Main diagnostic groups at our dizziness clinic during the years 1998-2002

Diagnostic group	Percentage	No. of patients
BPPV	25.7%	191
Suspected BPPV*	24.4%	181
Non-organic vertigo	16.2%	120
PPV	7.4%	55
Panic attacks	5.0%	37
Pseudoagoraphobia	0.7%	5
Mal de débarquement sy	0.4%	3
Other	2.7%	20
Peripheral vestibular disease**	12.9%	96
Post-traumatic dizziness	5.8%	43
Vestibular migraine	5.0%	37
Vertebrobasilar ischemia	4.6%	34
Non-vestibular disequilibrium***	2.8%	21
Central****	2.2%	16
Vestibular schwannoma	0.5%	4

BPPV = benign paroxysmal positional vertigo.

\* History suggestive of BPPV, in remission at the time of examination.

\*\* Meniere's disease, vestibular neuritis, etc.

\*\*\* Extrapyrimalid sy, sensory polyneuropathy, etc.

\*\*\*\* Cerebellar/brainstem tumors, multiple sclerosis, etc.

they recognize as provoking factors. There is a tendency to develop rapid conditioning, generalization, and avoidance behavior.

- Anxiety and distressing vegetative symptoms occur during or after vertigo. Most patients have attacks both with and without anxiety.
- Obsessive-compulsive-type personality, labile affect and mild depression.
- Onset of the condition frequently follows a period of particular emotional stress, after a serious illness, or following an organic vestibular disorder.

The last criterion was omitted in some of our patients, as discussed later.

Detailed information regarding the patients' present complaints, past medical history and drug history were obtained. Patients with a history of neurologic disease or chronic otologic disease were excluded. Also excluded were patients taking drugs causing dizziness, especially when there was a time correlation between the beginning of the drug intake and the onset of dizziness.

The patients underwent a detailed neurologic examination, with special emphasis on balance tests such as the Romberg and Fukuda test, gait with and without eye closure, and stance on foam. An eye examination included the search for spontaneous, gaze-evoked, positional and head shaking nystagmus with and without the use of Frenzel's glasses. Smooth pursuit, saccades and vestibulo-ocular reflex were examined. Cerebellar functions were assessed.

Blood tests including thyroid function, audiometry, brainstem auditory evoked potentials, cardiovascular assessment and brain imaging (brain computerized tomography scan or magnetic resonance imaging) were performed where appropriate.

## Results

Of the 55 patients with PPV, 12 were men. The mean age was 47.4 years, SD  $\pm$  12.7, range 16–79 years. The patients complained of unsteadiness with or without dizziness, and superimposed attacks of sudden unsteadiness or veering that often cause them to grasp surrounding objects or look for other support. The mean duration of the complaints was 26.7 months, SD  $\pm$  39.1, range 0.5–20 years.

Anxiety was reported or admitted on direct questioning by only 3 patients (5%), whereas vegetative symptoms, such as palpitations, sweating, dyspnea or diarrhea, were present in 10 patients (18%). Visual vertigo (moving objects such as traffic, neon lights, strips of a curtain or supermarket aisles causing discomfort) was reported in 11 patients (20%). Nine patients (16%) developed avoidance behavior, i.e., avoiding open spaces where support could be missing, closed spaces, descending stairs, crowds or walking on soft ground. A preceding life event in the form of disease (surgery, internal disease) or a life event with social impact (moving to a nursing home, death of a family member, etc.) was reported in 19 patients (35%). In seven patients (13%) a vestibular event such as benign positional vertigo or a clinically recovered vestibular neuronitis (without residual function disability and with a symptom-free interval) triggered the onset of symptoms. A history of coexisting panic disorder and/or agoraphobia was obtained in 4 patients (7%), whereas 8 patients (15%) had a history of depression or anxiety disorder.

All patients believed they suffered from a somatic, potentially dangerous disorder. All patients had a normal neurologic examination and imaging studies (34 had a normal brain CT scan, 11 had a normal brain MRI, and in 10 patients imaging was considered necessary for establishing the diagnosis). Five patients had a normal electronystagmogram. In some of the patients anti-vertiginous drugs such as cinnarizine or betahistine were tried before they attended our clinic, but with little effect. Follow-up was at 3 months after the first visit and thereafter individually at intervals from 3 to 6 months for 1–3 years (mean follow-up period 1.9 years).

Twenty patients (36%) reported complete remission of symptoms after the psychological mechanism of their complaints and the benign nature of the condition had been explained to them. Another 20 showed a substantial improvement in their instability but had occasional relapses and needed repeated reassurance. This group of patients refused any psychological help or drug therapy. In 15 patients (27%) antidepressant therapy in the form of serotonin reuptake inhibitors or tricyclic antidepressants was prescribed, which led to complete resolution of symptoms in 13 patients (23%). In 2 patients (4%) the symptoms persisted despite antidepressant therapy. Two typical cases are presented for illustration:

### Patient 1

A 37 year old previously healthy woman complained of persistent balance problems on standing and walking, more so in crowded places. The symptoms began 1 year previously, after an emergency operation for bleeding from corpus luteum. She also reported frequent short unprovoked episodes of a sense of falling and the need to grasp for support. However, she never fell. Lately she had

stopped driving because fast-passing cars made her dizzy and caused a sense of spatial disorientation. Her neurologic examination, blood tests, audiologic examination, ENG and a brain MRI were normal.

After explaining the benign nature of the condition to the patient, reinforced by the normal results of the auxiliary examinations, the symptoms improved spontaneously over several weeks.

### Patient 2

A 30 year old man with a history of Crohn's disease and panic attacks presented with unsteadiness of 6 months duration. He reported being afraid of entering the bathroom when alone at home because of the fear of falling. When walking outdoors, he always tried to walk "along the walls" for support. Occasionally he experienced palpitations and dryness of the mouth. Three months prior to the onset of symptoms, he ceased the paroxetine therapy that he was taking for his panic attacks. The neurologic examination, audiologic tests and CT brain scan were normal. Paroxetine, 20 mg/day, was restarted and led to an improvement.

### Discussion

The first patient illustrates a case of PPV where the balance problem constituted the main complaint without any overt anxiety or depression. The report of symptoms being increased in crowded places or other situations that do not represent a stimulus for the vestibular system may be the indicator of their psychological origin. This case also demonstrates a stressful life event (abdominal surgery) as a trigger of PPV and the development of avoidance behavior (stopping driving). Furthermore, it also shows the extensive work-up in these patients – despite the absence of abnormalities on examination and on audio-vestibular tests. The patient even underwent a brain MRI before the benign nature of her condition was explained to her.

The second case is an example of PPV where the relation between somatic complaints of balance loss and anxiety is more obvious and easier to diagnose. The patient had a previous history of panic attacks that had to be treated; he also reported some vegetative symptoms, and the balance problem had begun after he discontinued the antidepressant-anticompulsive treatment.

Brandt's criteria for PPV include an obsessive-compulsive-type personality, labile affect and mild depression. However, a psychological analysis of PPV patients also revealed narcissistic, histrionic, avoidant, dependent and passive-aggressive traits [6,7]. We believe that a psychological analysis is therefore of little help to the physician who has to exclude an organic cause of the patient's balance problem, and the diagnosis in our patients was established without this criterion. Nevertheless, the impression of depression, emotional lability, exaggerated avoidance behavior or the pre-occupation of the patient with possible falls despite normal gait on examination may raise the suspicion of PPV.

When approaching a patient with complaints of unsteadiness, it is necessary to exclude organic causes such as central vestibular disorders, bilateral vestibulopathy, perilymphatic fistula, or ataxia

of non-vestibular origin. This is usually possible on clinical grounds. Selected patients may need audiologic examination (i.e., Meniere's disease) or brain imaging (CT scan for canal bone dehiscence or MRI for brainstem vascular loop). Laboratory vestibular tests usually help to confirm rather than establish the diagnosis (i.e., finding of horizontal canal hypofunction in cases of vestibular neuronitis on EMG). Posturography can help in differentiating between balance disorders of vestibular, somatosensory and visual origin. Brandt et al. [5,8,9] analyzed posturographic findings in patients with PPV and found an increase in higher frequency sway activity with no impairment of objective postural stability. This response is similar to that in normal subjects when performing difficult balance tasks, possibly suggesting that PPV patients pay exaggerated attention to their balance [5,6,9]. Posturography is also part of Brandt's first diagnostic criterion for PPV [4]. Since this test is not routinely available we obviated this examination in our patients.

After excluding organic causes, PPV should be differentiated from other non-organic forms of dizziness and instability, mainly panic attacks – which differ from PPV in the multiplicity of symptoms (palpitations, sweating, trembling, dyspnea, paresthesias, etc.) and their episodic nature [10]. Panic disorder can be accompanied by fear and avoiding situations where the onset of symptoms can be embarrassing and where help or escape might be difficult; namely, agoraphobia. Agoraphobia may also constitute a part of PPV but does not usually dominate the clinical picture. Pseudoagoraphobia is a disease of elderly people, triggered usually by a fall or an unrelated illness and characterized by loss of confidence and fear of falling in open spaces [11]. This condition is usually therapy-resistant. Another syndrome resembling PPV is *mal de débarquement* [12,13], which is a sensation of unsteadiness on returning to land after sea travel and can last for years. Visual vertigo syndrome refers to balance symptoms triggered or exacerbated by optic flow stimulation or repetitive visual patterns, such as those encountered in supermarket aisles, traffic or crowds or seeing moving objects [14]. While visual vertigo often constitutes a part of PPV, some authors believe it is the expression of an enhanced visual dependence in patients with an undetected vestibular problem [14,15].

Among other somatoform disorders, somatization disorder presents with a combination of many somatic complaints in contrast to the main, or even the only symptom of loss of balance in PPV. Conversion disorder differs from PPV by the presence of primary and secondary gain, and hypochondriasis by the prominent preoccupation with fears of having a serious disease and persistence despite reassurance. It must be emphasized that PPV is not a recognized diagnostic entity of the DSM-IV and appears to belong to the group of undifferentiated somatoform disorders.

A history of vestibular disorder is found in only a minority of patients, and in these cases PPV is considered to be a somatization reaction following a vestibular lesion [16]. However, some authors disagree with this concept and propose that PPV, as well as some related entities (such as visual vertigo), constitutes only one face of an undetected peripheral or central vestibular problem [15]. In our series, a history of an inner ear problem as the trigger for PPV was

ENG = electronystagmogram

present in 13% of patients, while a stressful life event triggering PPV was reported in 35% of patients.

According to previous reports and our own experience, 70% of patients with PPV will improve after receiving an explanation of the psychological mechanism of their symptoms and only in a minority of patients is drug or behavioral therapy necessary [6,7].

The term phobic postural vertigo stresses the anticipatory anxiety of the syndrome. However, as mentioned above, PPV usually occurs without anxiety typical for phobias, and therefore some authors find the term "phobic" inappropriate. We believe that it may evoke unpleasant reactions on the part of the patient as well as the family doctor by putting the patient into a psychiatric category and therefore prefer to label the condition "subjective unsteadiness," thus preserving the link between a somatic complaint and the lack of objective findings.

Brandt [5] hypothetically explains the mechanism of PPV as an impairment of the space constancy mechanisms. In other words, the sensory effects of normal postural adjustments, of which we are usually unaware, are interpreted by these patients as arising from external body movements or motion of the surroundings [5]. The aim of the present article is to draw attention to this new proposed entity. When confronting a patient with complaints compatible with PPV and absence of abnormalities on neurologic and otolaryngologic examination, it would be preferable to refer the patient to a specialized dizziness clinic where, after a comprehensive examination and final diagnosis, he or she can be managed without the need for many time-consuming and costly auxiliary examinations.

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