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Editorial comment

Chronic Benign Paroxysmal Positional Vertigo (BPPV): A possible cause of chronic, otherwise unexplained neck-pain, headache, and widespread pain and fatigue, which may respond positively to repeated particle repositioning manoeuvres (PRM)

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In this issue of the *Scandinavian Journal of Pain*, Wenche Iglebekk. Carsten Tjell, and Peter Borenstein [1] report on pain and other symptoms in patients with chronic benign paroxysmal positional vertigo (BPPV).

1. BPPV is a common health problem

Vertigo from BPPV, which is the most common form of vertigo, can be a major handicap for the patient and cause great expenses for the society. Lifetime prevalence is 2.4% [2], indicating 120 000 cases in Norway.

If also dizziness and balance problems are included, 10% of Norwegians claim to have experienced such health problems the last three months [3].

The diagnosis of BPPV is usually based on a history of brief attacks of spinning vertigo and nystagmus provoked by changes in head position [4]. The cause is believed to be *otoconia* (otoliths) or debris thereof that have loosened from *macula utriculi* and fallen into one of the *semicircular canals* (*canalolithiasis*), most often the posterior canal (80%) of *labyrinthus vestibularis* in the inner ear (Fig. 1).

Less commonly, the otoconia may be fixed to *cupula* of *crista ampullaris* – *cupulolithiasis*, with somewhat different symptoms and signs.

When the head is moved in a manner that places the semicircular canal in question vertically, the loose otoconia will move downwards by the force of gravity and cause turbulence in the *endolymph*. This again will cause the *stereocilia* of the sensory cells at *crista ampullaris* to deflect, trigging an afferent signal through the *vestibular part of the eighth cranial nerve*, mimicking an angular acceleration of the head. The brain interprets this as if the person is spinning, trigging the *vestibulo-ocular reflex*, which is the cause of the observed *nystagmus*. In addition to the acute, spinning vertigo, the patient usually is nauseated and may vomit.

Usually acute BPPV can be treated effectively by manipulating the patient in a way that removes the displaced otoconia from the semicircular canal, i.e. particle repositioning manoeuvre (PRM). However, recurrences are common, and sometimes the condition becomes chronic (Fig. 1).

2. Some patients with chronic BPPV may also have incapacitating pain and fatigue

In the present report [1], the authors found that in chronic BPPV, dizziness is more common than spinning vertigo, which is at variance with the usual criterion for the diagnosis BPPV [5]. However, they still observed nystagmus from provocative changes in head position (Dix-Hallpike's test and PRM).

By extending the observation period for nystagmus after provocative movements, the authors observed nystagmus also in patients that would not be diagnosed with BPPV when following classical diagnostic procedures. The nystagmus was atypical, though, interpreted as caused by displaced otoconia present in more than one semicircular canal.

Almost all of their patients (87%) reported varying types of pain-conditions as a major symptom, and 85% experienced fatigue as well [1]. The authors speculate that pain and fatigue are caused by muscular tension due to a constant challenge of keeping their balance when feeling dizzy, due to conflicting afferent signals from the vestibular system, through vision, and from proprioception. The majority of their patients (75%) were on sick leave [1].

If the authors' observations and interpretations are correct, the diagnostic criteria of chronic BPPV must possibly be modified.

3. Curative treatment of chronic BPPV also reduces the associated chronic pain

Treatment for chronic BPPV, according to the present report [1] can often be beneficial for the patient's total situation, including

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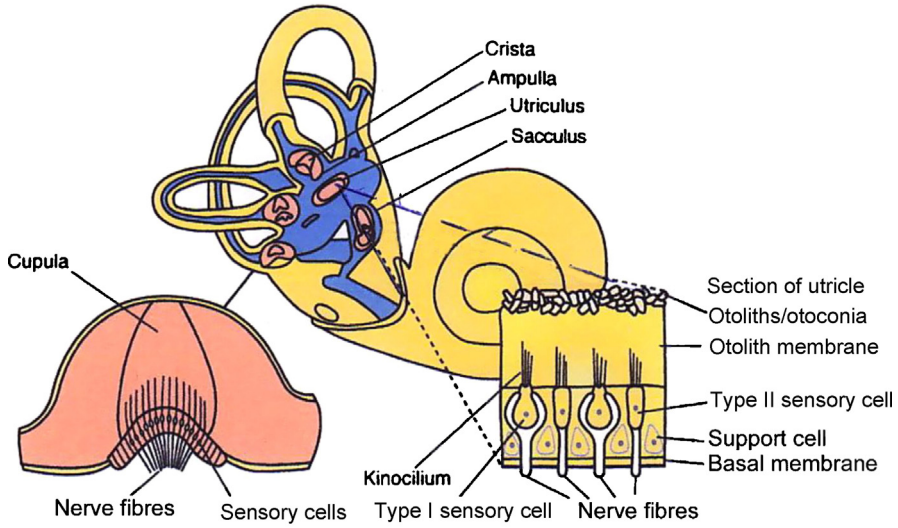

Fig. 1. The vestibular labyrinth of auris interna.

their chronic pain condition as shown by one illustrative case-report of a patient who had chronic pain as his major problem.

Therefore, Iglebekk and co-workers' results strongly indicate that health care providers should include search for chronic dizziness in their investigation of patients with chronic, unexplained pain [1].

4. Conclusions

The present report suggests an extension of the classical diagnostic criteria for chronic BPPV, the treatment of which benefited their patients with chronic dizziness, chronic pain, fatigue, and other symptoms.

The possibly causative association between vertigo or dizziness and chronic pain is subject to further investigation by Iglebekk and co-workers and is also in progress elsewhere. This shows that there is now much interest in this fairly common condition of treatable benign paroxysmal positional vertigo causing severe pain and other disabling symptoms.

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