

MEETING ABSTRACT

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# Balance in elderly: overview and personal experience in Paroxysmal Positional Vertigo (PPV)

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From de Senectute: Age and Health Forum  
Catanzaro, Italy. 5-7 December 2009

## Background

Vestibular impairment is an underlying cause in about 45% of elderly dizziness complaining.

Balance results from a complex integration of inputs at central nervous system level (vestibular, visual and somesthetic). Disorders of balance in elderly show an increase in terms of prevalence and severity and can result from impairment in sensory, motor and central processing systems for a specific pathology or for physiological progressive loss of function.

All the balance subsystems [1] are involved, with a reduction in:

Vestibular receptor cells (20% to 40%) [2]

Visual acuity, field and depth, contrast sensitivity

Myelinated and unmyelinated fibers (axonal atrophy with decline in conduction velocity and sensory discrimination)

Speed transmission and processing in brain

Muscle and joint strength and quality

Vestibular problems are very frequent in elderly starting from a labyrinthine dysfunction, we focus on PPV, the most frequent peripheral vestibular disease, a condition leading to high risk of fall at this age, to evaluate its real weight in elderly, from an epidemiological point of view.

## Materials and methods

912 PPV patients (mean 55.2yrs) (2005-2008). Complete otoneurologic evaluation (caloric stimulation, PPV identification through Dix-Hallpike [3] and Pagnini-McClure [4] manoeuvres and anamnestic questionnaire for risk factors.

## Results

Females more affected, (1.7/1). Incidence higher between 5<sup>th</sup> and 6<sup>th</sup> decade (57.9%), and decrease between the 7th and 8th, particularly in females.

This appears to be in contrast with hypothesis that macular degeneration could enhance the formation of otolithic clusters in labyrinth.

## Conclusion

Frequency, simple diagnosis and high effective treatment in PPV have led to more widespread use of vestibular rehabilitation procedures. Because of the high incidence in 6<sup>th</sup> decade of life we strongly suggest to take in the right consideration the risk of fall linked to this condition.

Published: 19 May 2010

## References

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doi:10.1186/1471-2318-10-S1-A100

**Cite this article as:** Chiarella and Cassandro: Balance in elderly: overview and personal experience in Paroxysmal Positional Vertigo (PPV). *BMC Geriatrics* 2010 **10**(Suppl 1):A100.

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