



## Association of calcium concentration with pulse pressure in older women: Data from a large population-based multicentric study

Submitted by Emmanuel Lemoine on Wed, 04/22/2015 - 16:53

Titre	Association of calcium concentration with pulse pressure in older women: Data from a large population-based multicentric study
Type de publication	Article de revue
Auteur	Mateus-Hamdan, Leyla [1], Beauchet, Olivier [2], Rolland, Y. [3], Schott, A. M [4], Annweiler, Cédric [5]
Type	Article scientifique dans une revue à comité de lecture
Année	2013
Langue	Anglais
Date	2013
Pagination	1-7
Titre de la revue	The Journal of Nutrition Health and Aging
ISSN	1279-7707
Mots-clés	Calcium [6], older adults [7], parathyroid hormone [8], Pulse pressure [9], Vitamin D [10]

**Objective**

High arterial pulse pressure is a predictor of cardiovascular morbimortality. Mineral metabolism has been associated with blood pressure regulation. Our objective was to determine which variable among serum calcium, parathyroid hormone and 25-hydroxyvitamin D concentrations, was associated with pulse pressure among older adults.

**Design**

Cross-sectional study corresponding to the baseline assessment of the EPIDOS study.

**Setting**

Five French cities including Amiens, Lyon, Montpellier, Paris and Toulouse.

**Participants**

Randomized sample of 610 community-dwelling older women (mean age  $80.2 \pm 3.5$  years) using no antihypertensive drugs.

**Measurements**

Serum calcium, parathyroid hormone and 25-hydroxyvitamin D concentrations; supine pulse pressure after 15 minutes of rest (hypertension defined as pulse pressure  $>50$ mmHg). Age, body mass index, the number of morbidities and of drugs daily taken, diabetes mellitus, dysthyroidy, the use of estrogenic drugs, smoking, alcohol consumption, practice of a regular physical activity, creatinine clearance, and the effects of season and study centers were used as potential confounders.

**Results**

Hypertensive participants ( $n=539$ ) had higher calcium concentrations than normotensive ones ( $94.33 \pm 4.12$ mg/L versus  $93.28 \pm 3.36$ mg/L respectively,  $P=0.040$ ). There were no between-group differences for serum parathyroid hormone and 25-hydroxyvitamin D concentrations. The multiple logistic regressions examining the serum calcium, parathyroid hormone and 25-hydroxyvitamin D concentrations as predictors of hypertension found an association only with calcium (adjusted odds ratio=1.19,  $P=0.015$ ), but not with parathyroid hormone (adjusted OR=1.01,  $P=0.349$ ) or 25-hydroxyvitamin D concentration (adjusted OR=0.99,  $P=0.971$ ).

**Conclusion**

Increased serum calcium concentration was independently and positively associated with high pulse pressure in our study, possibly due to increased arterial stiffness. Interventions aimed at normalizing calcaemia may be attractive to prevent hypertension and cardiovascular risk in older adults.

Résumé en anglais

URL de la notice

<http://okina.univ-angers.fr/publications/ua10170> [11]

DOI

10.1007/s12603-013-0412-1 [12]

Lien vers le document

<http://dx.doi.org/10.1007/s12603-013-0412-1> [12]

Titre abrégé

J Nutr Health Aging

**Liens**

[1] [http://okina.univ-angers.fr/publications?f\[author\]=17906](http://okina.univ-angers.fr/publications?f[author]=17906)

[2] <http://okina.univ-angers.fr/o.beauchet/publications>

[3] [http://okina.univ-angers.fr/publications?f\[author\]=17538](http://okina.univ-angers.fr/publications?f[author]=17538)

[4] [http://okina.univ-angers.fr/publications?f\[author\]=17536](http://okina.univ-angers.fr/publications?f[author]=17536)

[5] <http://okina.univ-angers.fr/cedric.annweiler/publications>

[6] [http://okina.univ-angers.fr/publications?f\[keyword\]=231](http://okina.univ-angers.fr/publications?f[keyword]=231)

[7] [http://okina.univ-angers.fr/publications?f\[keyword\]=15402](http://okina.univ-angers.fr/publications?f[keyword]=15402)

[8] [http://okina.univ-angers.fr/publications?f\[keyword\]=15914](http://okina.univ-angers.fr/publications?f[keyword]=15914)

- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=15913](http://okina.univ-angers.fr/publications?f[keyword]=15913)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=5969](http://okina.univ-angers.fr/publications?f[keyword]=5969)
- [11] <http://okina.univ-angers.fr/publications/ua10170>
- [12] <http://dx.doi.org/10.1007/s12603-013-0412-1>

Publié sur *Okina* (<http://okina.univ-angers.fr>)