



## High parathyroid hormone, but not low vitamin D concentrations, expose elderly inpatients to hypertension

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Résumé en  
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**AIM:** Serum parathyroid hormone (PTH) and 25-hydroxyvitamin D (25OHD) concentrations might contribute to blood pressure (BP) levels. Mixed results in previous literature could be due to the failure to consider both these hormones concurrently, despite their long-known relationship. Our objective was to examine the association of serum intact PTH and 25OHD concentrations with BP levels amongst older inpatients, while accounting for each other.

**METHODS:** The participants were 284 Caucasian older inpatients with no suspicion of primary hyperparathyroidism (mean age  $85.87 \pm 5.90$  years; 65.8% female) admitted to the geriatric acute care unit of Angers University Hospital, France. They were divided into two groups according to the existence of hypertension (i.e. systolic blood pressure [SBP]  $>140$  mmHg, or diastolic blood pressure [DBP]  $>90$  mmHg). Age, sex, numbers of chronic diseases and of drugs taken daily, use of antihypertensive or corticosteroid drugs and of calcium supplements/vitamin D, thyroid-stimulating hormone and albumin concentrations, creatinine clearance, and season tested were used as covariables.

**RESULTS:** Hypertensive participants ( $n=106$ ) had higher intact PTH concentrations than normotensive patients ( $P=0.044$ ). There was a positive linear association of BP with intact PTH concentrations (adjusted  $\beta=0.08$ ,  $P=0.015$  for SBP; adjusted  $\beta=0.05$ ,  $P=0.044$  for DBP), but not with vitamin D. Serum intact PTH concentration, unlike 25OHD, was associated with hypertension (adjusted OR 1.01,  $P=0.038$ ).

**CONCLUSIONS:** Irrespective of 25OHD, PTH was associated with hypertension by increasing both SBP and DBP.

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