**Titre de l'article**

Interpretation of plasma PTH concentrations according to 25OHD status, gender, age, weight status, and calcium intake: importance of the reference values.

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**Résumé**

CONTEXT:
Reference values for plasma PTH assessment were generally established on small samples of apparently healthy subjects, without considering their 25-hydroxyvitamin D (25OHD) status or other potential modifiers of PTH concentration.

OBJECTIVE:
Our objective was to assess ranges of plasma PTH concentration in a large sample of adults, stratifying by 25OHD status, age, gender, weight status, and calcium intake.

DESIGN, SETTING, AND PARTICIPANTS:
This cross-sectional survey is based on 1824 middle-aged Caucasian adults from the Supplémentation en Vitamines et Minéraux Antioxydants study (1994).

MAIN OUTCOME MEASURES:
Plasma PTH and 25OHD concentrations were measured by an electrochemoluminescent immunoassay. Extreme percentiles of plasma PTH concentrations were assessed specifically in subjects who had plasmatic values of 25OHD of 20 ng/mL or greater and 30 ng/mL or greater.

RESULTS:
Among subjects with 25OHD status of 20 ng/mL or greater, the 97.5th percentile of plasma PTH concentration was 45.5 ng/L. By using this value as a reference, 5% of the subjects with plasma 25OHD less than 20 nmol/L had a high plasma PTH level,

reflecting secondary hyperparathyroidism. Among vitamin D-replete subjects (25OHD status of 20 ng/mL or greater), the 97.5th percentile of plasma PTH was higher in overweight/obese subjects (51.9 vs 43.5 ng/L among normal weight subjects).

CONCLUSIONS:
The reference value for plasma PTH defined in this vitamin D-replete population was far below the value currently provided by the manufacturer (65 ng/L) and varied according to overweight status. These results may contribute to improve the diagnosis of primary and secondary hyperparathyroidism and subsequent therapeutic indication.

**Mots-clés**

Adult, Age Factors, Aged, Body Weight/physiology, Calcium/administration & dosage Case-Control Studies, Cross-Sectional Studies, Data Interpretation, Statistical, Diagnostic Techniques, Endocrine/standards, Diagnostic Techniques, Endocrine/statistics & numerical data, Eating, Female, Humans, Male, Middle Aged Nutritional Status, Parathyroid Hormone/blood, Reference Values, Sex Factors, Vitamin D/analogs & derivatives, Vitamin D/blood

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