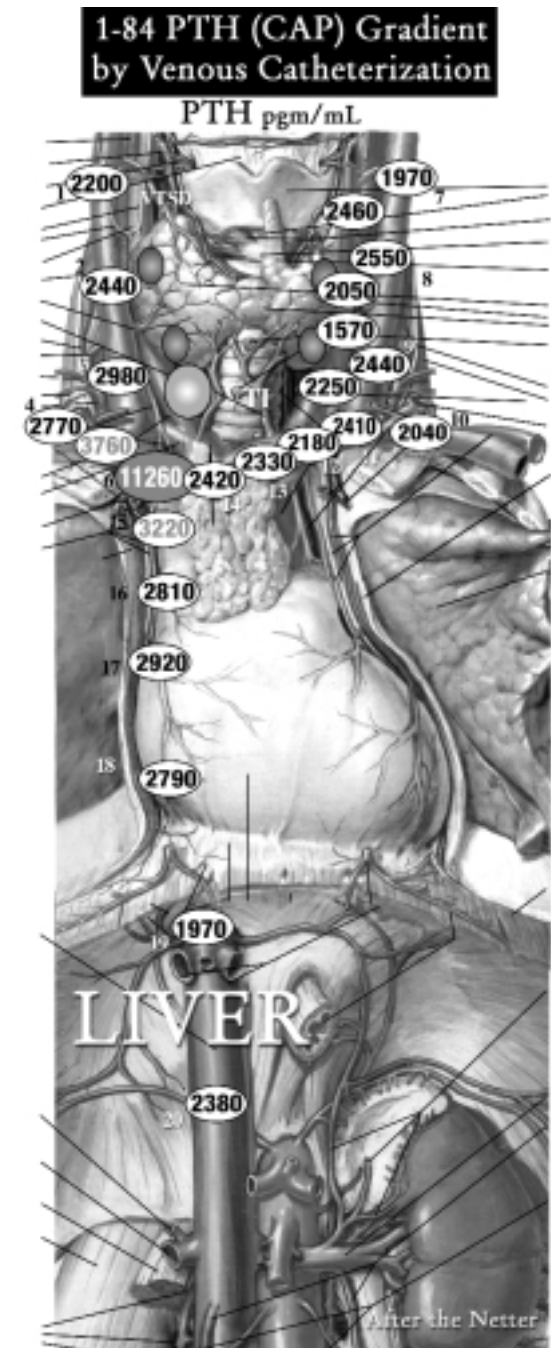


Novel Method for Identification of a Single Primary Hyperparathyroid Adenoma in a Patient with CKD

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Elevated PTH levels in patients with CKD are assumed to be consequences of secondary hyperparathyroidism (2 HPT). However, patients with CKD have been known to have primary hyperparathyroid (1 HPT) adenomas. Usually, levels of PTH associated with 1 HPT are lower than levels of 2 HPT. Treatment strategies for 2 HPT are different (pharmaceutical vs surgical). We describe a novel method to identify 1 HPT as opposed to 2 HPT in a patient with CKD. The patient was a 74 year-old male who, in 1998, had an adenectomy for 1 HPT and CKD with urea 15.5 mM/L (ref. 2.5-7.5) and creatinine 172 (ref. 55-110). In 2004, the patient presented with total PTH (iPTH) of 2400 pgm/mL. Cardiac catheterization through the femoral artery is a routine procedure. This patient was catheterized at the femoral vein with insertion into the internal right and left jugular veins, brachial cephalo trunks, right and left subclavical veins, and superior and inferior vena cava to the level of the liver. At approximately 1 cm intervals, blood specimens were taken and analyzed for CAP 1-84 PTH. By this method, one adenoma was identified (later confirmed by surgery) which secreted at its venous drainage 11,260 pgm/mL of 1-84 PTH. Subsequent sampling points distal to the adenoma had PTH values reflective of peripheral mixing. Over 150 CAP Gradients by Venous Catheterizations have been performed for localization of suspected 1 HPT. There are over 50,000 new cases of 1° HPT diagnosed each year in the US and should be considered as a possibility for patients with CKD. This CAP Gradient by Venous Catheterization method has successfully differentiated 1° HPT from 2° HPT in this CKD patient and should be considered as a diagnostic option.



Cantor T, Fulla Y, Vuilleumard C, Nonnenmacher L, Legmann P, Bonnichon P, Chapuis Y. Novel Method for Identification of a Single Primary Hyperparathyroid Adenoma in a Patient with CKD. *J Am Soc Nephrol* 2004; 15(10):PUB041, p. 770A.