
It is well known that not only intact (1-84) PTH and (1-34) PTH showing biological activity but also C-PTH, inactive fragment, exist in plasma. Therefore, in a case of renal failure with high C-PTH, it is difficult to know the possibility of the complication of secondary hyperparathyroidism. We measured the concentration of PTH, using specific RIA for N- or C-PTH, in various of disorders with abnormal calcium metabolism. RIA for N-PTH was done, using human (1-34) PTH for standard, its antiserum for antibody and I-125-human (1-34) PTH for tracer. On the other hand, RIA for C-PTH was done, using human (65-84) PTH for standard, antiovine (1-84) PTH antiserum for antibody and I-125-human tyr-(65-84) PTH for tracer. It is shown that patients with prim. hyperparathyroidism or chronic renal failure associated with bone lesions showed significantly high N-PTH level, and that N-PTH assay is better than C-PTH in evaluation of bone lesions.