

Abstract

The 'Spot' hydroxyproline test, viz the ratio of post-absorptive urinary hydroxyproline to creatinine, (HYP.Cr ratio) has been found useful in the diagnosis and follow up of patients with metastatic bone disease, arising from a variety of primary tumors (Kelleher and Smith 1982).

This study presents the results of assay of the 'Spot' HYP.Cr ratio as well as that of a simpler parameter, viz the HYP:Cr ratio in early morning urine of normal healthy controls and of patients suffering from metastatic bone disease. The "Early morning" parameter has hitherto not been examined.

The within batch coefficient of variation of the HYP.Cr ratio was determined to be 2.9%, 5.7% and 0.5% (n=4) and the between batch coefficient of variation was 0.7% (n=4) and 2.4% (n=18). The assay has therefore been shown to have low imprecision and to be highly reproducible.

The results show that of a group of 20 patients with X-ray evidence of bone metastasis, 17 exhibited an increased "Early morning" urinary HYP.Cr ratio and 19 had increased 'Spot' HYP.Cr values. The sensitivity of these two parameters in the diagnosis of bone malignancies has therefore been established as 85% for "Early morning" and 95% for 'Spot' values respectively.

As regards test specificity, two of 54 healthy control subjects had "Early morning" values greater than the upper limit of normal and one of 54 and "Spot" values greater than the upper limit of normal. Hence the test specificities were 96.3 and 98.3% for "Early morning" and "Spot" values respectively.