

years, mean 58.8 years), mean plasma human prolactin levels were  $19.58 \pm 15.99$  ng/ml.

Thyrotropin releasing hormone (TRH, 500  $\mu$ g) was injected intramuscularly in 25 patients with advanced breast cancer and 10 patients with primary breast cancer. Maximum responses were observed in both groups one hour after injection. Mean value was  $89.08 \pm 58.65$  ng/ml and  $67.84 \pm 43.92$  ng/ml respectively.

In generally normal persons, plasma human prolactin dose not exceed the value more than 30 ng/ml. Two of twelve patients with primary breast cancer showed high values more than 30 ng/ml. Eleven of thirtyfour patients with

advanced breast cancer exceeded this value.

These results suggested that some patients had abnormal prolactin secretion.

In five patients who were treated with CB-154, plasma human prolactin levels were measured. After administration of CB-154, plasma human prolactin levels were decreased in all patients than their basal levels. Its mean maximum per cent decrease was 81.0% and its effect continued 10 hours after administration.

L-DOPA also lowered plasma prolactin levels but its effect disappeared four hours after administration.

### **A Method for Determination of Hypoxanthine-Guanine and Adenine Phosphoribosyltransferase by Electrophoresis and Thine-Layer Chromatogram Scanner**

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The importance of salvage pathways for purine nucleotide biosynthesis became strikingly apparent with the discovery of the Lesch-Nyhan syndrome in 1964. The enzyme assay, however, was complicated. A simple method for hypoxanthine-guanine and adenine phosphoribosyltransferase, which was modified from the method of kizaki is presented. Reaction was carried out in a microtube using isotope labelled substrate and terminated by the addition of formic acid. An aliquot of the reaction mixtures was applied on cellulose acetate

membrane over standard carrier substances and the products were separated electrophoretically using two buffer systems, 0.1 M borate buffer pH 9.0 and 0.1 M Tris-HCl buffer pH 7.5. The electrophoresis was performed as commonly used in a clinical laboratory, and the cellulose acetate membrane was scanned by thin-layer chromatogram scanner. We could determine these enzyme activities within 2 hours by this method. This simple and rapid method will be applied to the screening study of hyper uric-acidemia in the clinical field.