

ificant rise in the plasma testosterone levels following administration of LH-RH or HCG was observed in this period. Medical adrenalectomy lowered the plasma testosterone level to negligible amount in patients who had been on hexestrol. In advanced metastatic disease this was often associated with relief of pain.

On the other hand, in patient who was treated by only orchidectomy the pituitary reacted significantly to administration of LH-RH and the plasma testosterone was found in very high levels and the tumor of the prostate was rather enlarged over a period twenty months' after orchidectomy.

## An Attempt to Simplify Preparation of Renal Scintigram Agent $^{99m}\text{Tc}$ -Penicillamine-Acetazolamide Complex ( $^{99m}\text{Tc}$ -PAC)

S. HAKARIYA, S. INATSUKI, Y. TSURU, H. KINOSHITA and Z. HOMBO  
*Department of Radiology, Nagasaki University School of Medicine*

M. KOGA

*Department of Radiology, Yamaguchi Prefectural Hospital*

Ever since a new renal scintigram agent  $^{99m}\text{Tc}$ -PAC replacing  $^{203}\text{Hg}$  chlormerodrin was reported by Halpurn et al., renal scanning with  $^{99m}\text{Tc}$ -PAC has been practiced at various clinics and laboratories because of its advantages such as 1) exposure dose is reduced, 2) examination time is shortened, 3) renal shadow and internal structure is clearly indicated, and 4) fine image is available even with hypofunction kidney. This scintigram is highly evaluated clinically.

We have long followed the method of Halpurn et al. to obtain renal scintigram this method has some disadvantages such as 1) concentrated hydrochloric acid is used as reducing agent, 2) pH meter has to be operated, and 3) autoclave has to be used. Having amended these disadvantages, we simplified the preparation of  $^{99m}\text{Tc}$ -PAC and reported it at the 73rd meeting of the Kyushu

Radiological Society.

Recently we further reviewed the matter and effected the following improvements. 1)  $\text{SnCl}_2$  is used as reducing agent instead of concentrated hydrochloric acid; 2) phenolphthalein indicator is used for pH recipe; and 3) autoclave may be substituted by sand bath for preparation of  $^{99m}\text{Tc}$ -PAC.

As a result, in the pH range of 8.5~9.5 where appropriate quantity of  $\text{SnCl}_2$  is 1.5~2.0 mg, there was no big difference in yield. Accordingly, the use of an indicator as phenolphthalein is sufficient for pH recipe. Moreover, the above facts suggest that simplified preparation is available if the reagents to be used are sterilized in advance.

We have prepared  $^{99m}\text{Tc}$ -PAC using  $\text{SnCl}_2$  reduction method in daily examinations and obtained renal scintigram no inferior to that obtained by Halpurn's method.