

be concentrated on a clot surface by adsorption. Since arterial thrombosis is initiated by the formation of a mural thrombus, an adsorbable fibrinolysin, if present in circulating blood, while insufficient to impair haemostasis, could be augmented sufficiently by adsorption to have a thrombolytic and anti-thrombotic function.

GEORGE R. FEARNLEY

Department of Medicine,  
Postgraduate Medical School of London.  
June 16.

<sup>1</sup> Fearnley, G. R., Revill, R., and Tweed, J. M., *Clin. Sci.*, **11**, 309 (1952).

<sup>2</sup> Fearnley, G. R., and Tweed, J. M., *Clin. Sci.*, **12**, 81 (1953).

<sup>3</sup> Truelove, S. C., *Clin. Sci.*, **12**, 75 (1953).

<sup>4</sup> Ratnoff, O. D., *Bull. Johns Hopkins Hosp.*, **84**, 29 (1949).

### Effect of Diuresis on Uptake of Radioiodine (<sup>131</sup>I) by the Thyroid

In the past two years, radioiodine uptake has been studied in more than two hundred patients. From the analysis of our results, we are able to draw certain conclusions concerning the effect of diuresis on the urinary excretion of radioiodine. The iodine-131 was supplied from Harwell.

After administering the radioiodine to the subject, the urine is collected at frequent intervals for 104 hours. The usual tracer dose is 200  $\mu$ C, while the average single effective dose is 5.5 mC. No special recommendations were given to the patients concerning the fluid intake. Fig. 1 shows the variation of the amount of iodine-131 excreted in urine during the first four hours as a function of the total water output during the same time. Patients are divided in groups following the total amount of the dose excreted. The water output varied from 50 c.c. to 750 c.c. Our results indicate that the uptake of radioiodine by human subjects is not affected by the diuresis, the latter being essentially dependent on the fluid intake.

Our observations indicate also a linear relationship between the percentage of the total dose of iodine excreted during four days and the amount excreted during the first four hours after administration. However, this observation is only valuable when we consider the mean values; the individual fluctuations observed are important because the variations are such that it is impossible to use this standard curve in order to determine the total uptake by the thyroid gland. It is to be noticed that the fluctuations are of less importance for patients with hyperthyroidism

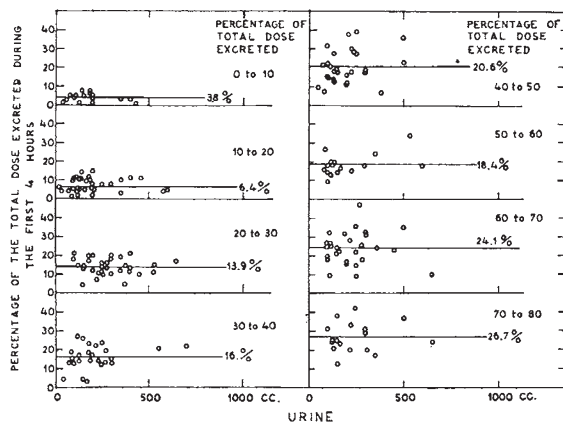


Fig. 1

who excrete a low percentage of the dose. In the latter, the urinary excretion during the first four hours will give a rather good picture of the total uptake of the radioiodine.

So we may conclude that, in general, the urinary excretion of iodine-131 should be followed for a much longer time interval than four hours—an ideal time being forty-eight hours.

J. PAHAUT

J. GOVAERTS

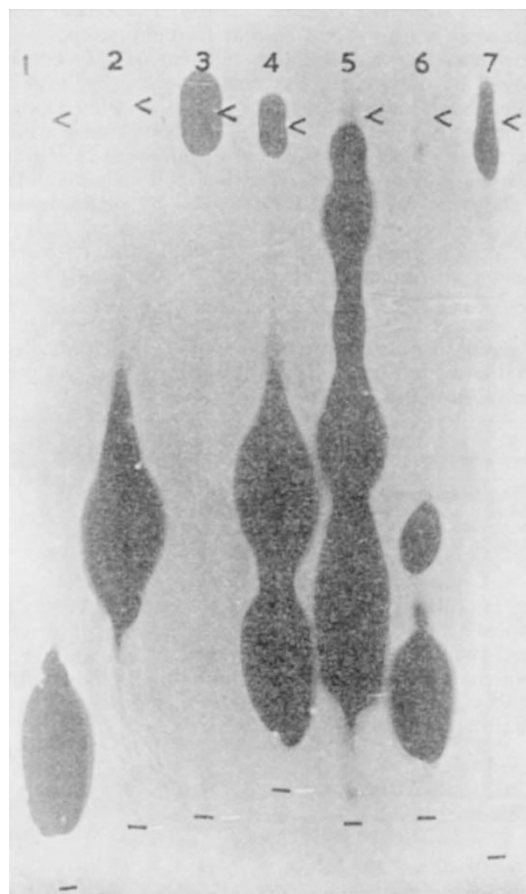
P. BONHOMME

Radiological Department of the  
Clinic of St. Joseph, Liège. July 22.

### Hydrophilic Penicillins produced by *Penicillium chrysogenum*

It has been shown<sup>1-3</sup> that a species of *Cephalosporium* produces an antibacterial substance, cephalosporin N, which is a new type of penicillin characterized by its insolubility in most organic solvents and by a similar order of activity against Gram-positive and Gram-negative bacteria<sup>4</sup>.

In the course of experiments, the results of which will be reported elsewhere, on the incidence of this type of hydrophilic penicillin production by moulds and factors controlling their biosynthesis, it has now been found that *Penicillium chrysogenum* produces a



(1) Benzyl penicillin, (2) *p*-Hydroxybenzyl penicillin, (3) Cephalosporin N, (4) Mixture of 1, 2 and 3, (5) Carbon eluate from *Penicillium chrysogenum* fermentation without phenylacetamide, (6) Carbon eluate from *Penicillium chrysogenum* fermentation with phenylacetamide (0.06 per cent), (7) Penicillin W from 5. <, point of origin on paper strips. — solvent front