gastroenteritis and other toxic conditions in infants there was extreme hyperuricaemia—20 mg/100 ml was often recorded. With such levels precipitation of urate in the kidney had to be considered.

To investigate this possibility experimental production of the syndrome was effected in rats by blocking the uricase activity with oxonic acid.³ By application of sublethal tourniquet shock in these animals we regularly found hyperuricaemia and massive uric acid precipitation in the renal tubules.⁴

It is possible that "shock" kidney is provoked by this mechanism, and the particular purine metabolism of man may also be the explanation of his special proneness

to kidney damage in shock.—We are, etc.,
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Gold Excretion in Rheumatoid Arthritis

SIR,—Gold therapy is of proved merit in rheumatoid arthritis.¹⁻⁴ Smith *et al.*⁴ suggested that patients may be classified as normal, hypoexcretors, and hyperexcretors of injected gold. Whereas the hypoexcretor rapidly accumulates gold in the body leading to early toxicity, the hyperexcretor never achieves the therapeutic level. It is thus necessary to adjust therapeutic dosage to rates of excretion. We are at present engaged in investigating the biological half-life of injected gold salts in patients with rheumatoid arthritis. As a first step we have

measured urinary gold output by means of activation analysis.

Forty-eight patients were studied. In 18 patients 24-hour urine collections were made for seven days following an injection of sodium aurothiomalate (Myocrisin) 50 mg. In the other 30 patients a 24-hour urine collection was made during either the second, third, fourth, fifth, or sixth day after injection, selected at random. Aliquots of urine samples and of standard gold solution were irradiated for five minutes in a thermal neutron flux of 1.3×10^{13} neut-

rons/cm²/second in the DIDO reactor (UKAEA, Harwell). After allowing the ²⁴Na to decay to an acceptable level, the ¹⁹⁸Au radioactivity was measured by gamma ray spectrometry.

The seven-day excretion studies (18 patients) showed a remarkably flat curve (Fig. 1). In only one patient was a high excretion rate observed (Fig. 2). In this patient most of the injected gold was excreted within the first week, and probably a therapeutic level could not be achieved on conventional dosage. Apart from this patient, the maximum daily excretion of gold during a seven-day period of observation (Fig. 3), the mean daily excretion rate during the second to sixth day following injection, and the daily excretion rate of random 24-hour samples during the same period (Fig. 4) all showed variation within a relatively narrow range only.

We conclude that following an injection of sodium aurothiomalate for rheumatoid arthritis in most patients the gold is excreted slowly and fairly uniformly. In our experience, the type of hyperexcretion envisaged by Smith *et al.*⁴ is a rare occurrence.

We thank the East Anglian Regional Hospital Board who sponsored this research, and Messrs. May and Baker who contributed to the cost of the activation analysis.

—We are, etc.,

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Figure 1
Mean daily urinary gold excretion (+ or - S.D.) during seven days after injection of Myocrisin 50 mg.

Figure 2
Daily urinary gold excretion during seven days after injection of Myocrisin 50 mg in hyperexcretor.

Figure 3
Frequency distribution of maximum excretion.

Figure 4
Frequency distribution for urinary gold excretion in random and mean 24-hour samples.

Vaginitis and Tights

SIR,—I have been rather surprised by the considerable increase in vaginal and vulval infections in my practice over the past two or three years. It has struck me that this increase coincides to some extent with the present fashion of wearing nylon tights instead of stockings.

I would be interested to know whether any other doctors have noticed this possible correlation.—I am, etc.,

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London S.E.20

Points from Letters

Tired Doctors

DR. S. STOWE (Leeds, York.) writes: Your article on jet pilots (26 December, p. 759) has provoked me to ask various questions about our profession. . . . Is there any doctor who can say he has never made a mistake due to fatigue? Must we have articles on jet pilots, however correct their content is, before any work is done on the problem of fatigue in doctors when their hours of work belittle the 33 hours mentioned in relation to jet pilots? They say that planes have automatic pilots and landing devices to help the pilot. But what does the young doctor get? And just as important, does not the patient deserve something better than a fatigued attendant? . . .