

growth under these test conditions.

Parallel assays on bacterial extracts with and without purines in the basal medium yielded values in agreement within $\pm 15\%$. The possibility exists, however, that unless purines are present in the basal medium, un-

knowns rich in purines and containing p-aminobenzoic acid will give high assay values. It is therefore recommended that adenine, guanine, and xanthine be incorporated in the basal medium used for p-aminobenzoic acid assay.

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The Bone Marrow in the Five-Day Treatment of Syphilis.

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A study* of the 5-day treatment of syphilis¹ made by the Department of Medicine of the Albany Medical College made it possible, at the suggestion of Dr. L. W. Gorham, to investigate the effect of intensive arsenical therapy on the bone marrow. The patients, who had primary or early secondary syphilis, were given 0.24 g of Mapharsen in 2000 cc of 5% glucose in 12 hours by the intravenous drip method daily for 5 days. Every patient was studied exhaustively before and after treatment, and watched during treatment for signs of individual idiosyncrasy to the drug. As is well known, the administration of arsenicals to patients who have idiosyncrasies to such drugs may result in dermatitis (sometimes exfoliative), toxic hepatitis, leukopenia, secondary thrombocytopenia, aplastic anemia or hemorrhagic encephalitis. No such reactions occurred.

In addition to other laboratory tests made by the Department of Medicine, a sternal marrow puncture was performed before and after the treatment. Reticulocyte counts and 500 cell differential counts were made on the marrow samples. The reticulocyte count in the marrow of 14 cases showed no significant change after treatment. Differential counts on the 14 patients showed that in 6 patients the number of segmented neutrophils in the

marrow was slightly lower after treatment, in 6 cases it was slightly higher after treatment, and in 2 cases there was no change. Moreover, there was no significant change in the number or type of nucleated red cells present in these marrows, nor was there any significant change in the cellularity of the 2 marrow samples from each patient. In short, after the 5-day treatment of syphilis, in patients having no individual idiosyncrasies to arsenical drugs, there was no demonstrable change in the bone marrow. These results are reported because of the present great interest in intensive arsenical therapy.

Three of the 14 patients had a left shift in the Schilling index of the peripheral blood, although the total leucocyte count was within normal limits. These patients had a corresponding increase in neutrophilic band forms and metamyelocytes in the bone marrow. The other 11 had normal peripheral blood pictures and the differential counts of their marrows were within the range of "normal" marrow found by other investigators.²

Summary. The intensive arsenical therapy used in the 5-day treatment of syphilis produces no demonstrable effect on the bone marrow of patients who have no individual idiosyncrasy to arsenical drugs. Cases of primary and secondary syphilis in which there is no change in the peripheral blood picture have a distribution of cell types in the bone marrow which is within the normal limits of variation.

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¹ Hyman, H. T., Chargin, L., Rice, J. L., and Leifer, W., *J. A. M. A.*, 1939, **113**, 1208.

² See table in Scott, R. B., *Quart. J. Med.*, 1939, **8**, 127.