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Monocytosis and Lymphopenia in Experimental Rabbit-Pox.

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During the course of an investigation of a spontaneous epidemic of rabbit-pox,[1, 2] observations were made on the blood picture of the experimental disease. Standardized pipettes and the supravital technique were employed in making the blood examinations. Striking quantitative changes were noted in two classes of cells. During the height of the disease there was a marked decrease in the number of lymphocytes and an enormous increase in the number of circulating monocytes.

In a group of 12 animals systematically studied, the lymphocytes fell from a mean preinoculation level of 2473 or 35.1% of the total count to 847 or 7.5% on the third day following intratesticular inoculation. This was an actual decrease of 65.8% or a relative decrease of 78.6% from the preinoculation lymphocyte level. Simultaneously monocytes rose from a preinoculation value of 374 (5.4%) to 1534 (12.4%) on the third day following inoculation, an actual increase of 310%, or a relative increase of 185% from the mean preinoculation finding. The total white count rose from a mean preinoculation level of 6,971 to 12,530 on the third day. The extreme potency of the virus is evidenced by the fact that 5 of the 12 animals died on the third day after inoculation, and all were dead on the fifth day.

Single observations were made on a large number of animals presenting a milder, more chronic form of the disease. Similar changes were observed. Lymphocyte values of less than 1000 per cm. and monocyte counts of more than 3000 were not uncommon. In relative per cent, the lymphocytes frequently composed less than 8% of the total count while monocytes sometimes rose to 40 and 50%.

Attention has been called to the monocyte-lymphocyte ratio in tuberculosis[3] and syphilis.[4] In the group of 12 systematically studied animals, the M/L index rose from a preinoculation value of

[1] Greene, H. S. N., PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, 892.

[2] Pearce, L., Rosahn, P. D., and Hu, C. K., PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, 894.

[3] Cunningham, R. S., Sabin, F. R., Sugiyama, S., and Kindwall, J. A., *Bull. Johns Hopkins Hosp.*, 1925, **37**, 231.

[4] Rosahn, P. D., and Pearce, L., PROC. SOC. EXP. BIOL. AND MED., 1932, **29**, 869.

0.16 to 1.81 on the 3rd day after inoculation, while the highest M/L index in any animal of this group was 5.55.

An increase in monocytes has been reported in many diseases—tuberculosis, syphilis, virus III disease of rabbits, and small-pox. The suggestion has already been made that the proliferative phase of the general reaction is the feature common to these different diseases which may be associated with or responsible for the increased numbers of circulating monocytes. A decrease in the number of lymphocytes has also been reported in many diseases, but so far as we know in no disease has the decrease been so marked nor has it occurred in so short an interval as three days or less after inoculation.

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A Rapid Combined Slide Precipitation and Complement Fixation Test for Syphilis.

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The reaction between syphilitic serum and antigen manifests itself either in the formation of a precipitate or in fixation of an added complement. The fixation process is a prolonged one, requiring one hour or more, while the precipitation occurs almost immediately. Since in the syphilitic sera the same principle is accepted to be responsible for both the fixation of complement and flocculation, the reason for such a difference in the course of both reactions may depend on the concentration of the ingredients. In the various modifications of the Wassermann test the syphilitic serum, antigen and complement are used in diluted form, while the newest precipitation tests (Kahn, Citochol, Kline, Rosenthal) employ undiluted serum and concentrated antigen. It occurred to us that it might be possible to obtain a rapid fixation of complement by using the ingredients in the same concentration as in the precipitation tests. At the same time such a procedure would permit the combination of flocculation and complement fixation in one test.

Keining,[1] Kafka,[2] Kahn, Landau and McDermott,[3] in an attempt

[1] Keining, E., *Deut. med. Woch.*, 1921, **47**, 157.

[2] Kafka, V., *Deut. med. Woch.*, 1921, **47**, 269.

[3] Kahn, R. L., Landau, T. L., McDermott, E., PROC. SOC. EXP. BIOL. AND MED., 1926, **24**, 775.