freshly isolated from rabbit No. 5971, one group of organisms from the spinal fluid having a cataphoretic maximum at 2 seconds and the other, from the knee joint, showing a predominance of organisms at 3 seconds. In the case of the animals Nos. 5980 and 5981, which received these apparently very dissimilar cultures of streptococci, the organisms recovered from respective samples of the blood showed a cataphoretic distribution indicating equal division of the bacteria between the times of 2 seconds and 3 seconds. Organisms were found in the spinal fluid of only one of the animals and the cataphoretic distribution of these was similar to that of the bacteria from the blood. From the brains of both animals streptococci were obtained which showed a marked cataphoretic predominance at 2 seconds. From the 2 knee joints of both animals streptococci were removed, and the cataphoretic distributions were uniformly concentrated at 3 seconds (mobility of 2.25 $\frac{\mu/\text{sec.}}{\text{v/l}}$).

Additional investigations concerning certain effects of the injection of streptococci into rabbits will be presented elsewhere.[5]

Conclusions. 1. Strains of streptococci, in which alterations in cataphoretic velocities have been produced by exposure to a high frequency field (wavelength of 11 meters), when subsequently injected into rabbits are found as frequently in certain tissues as are the control (unexposed) strains. 2. Irrespective of the type of cataphoretic distribution of the injected strain, the streptococci which are isolated from brain tissue exhibit a type of cataphoretic velocity distinctly different from the organisms which are isolated from tissues of the joints.

7904 C

Platelet and Blood-Cell Counts in Newborn During First Two Days of Life.

DAVID ROSENBLOOM. (Introduced by F. H. Falls.)

From the Department of Obstetrics and Gynecology, University of Illinois, Chicago.

The purpose of this study was to establish a set of blood-platelet-count standards in infants, based upon an accurate method of counting. Red cell counts, white cell counts, and hemoglobin determina-

[5] Pratt, C. B., Sheard, Charles, and Rosenow, E. C., *Protoplasma*, 1935.

tions were made concomitantly. McLean and Caffey,[1] Lippman,[2] Jarcho,[3] Slawik,[4] Keilmann,[5] Lucas,[6] and Farnow[7] have furnished various standards.

The counts are made with a diluting fluid consisting of 100 cc. of a 3.8% aqueous solution of sodium citrate, 0.2 cc. of 40% formaldehyde, and 0.1 gm. of brilliant cresyl blue, kept ice-cold. A red-count pipette is filled to the 1.0 mark with diluting fluid, it is rapidly inserted into the drop of blood, and blood is drawn into the pipette approximately to the 0.5 mark, and diluting fluid is then immediately drawn in to the 101 mark. The pipette is then shaken. With a second pipette, an accurate red-cell count is made, using Hayem's solution. The hemocytometer is charged with the contents of the first pipette, the platelets are counted (in the same manner as red cells are counted), and then in the same fields the red cells are counted. The hemocytometer is then charged with the contents of the second pipette and a count is made. The latter number is an accurate absolute count of the red cells. The following proportion gives the number of blood platelets:

$$\frac{\text{Red cells (Pipette 1)}}{\text{Platelets (Pipette 1)}} :: \frac{\text{Red cells (Pipette 2)}}{\text{X}}$$

At the same time that the blood was taken from each infant for the platelet counts (through a deep heel puncture), a white-cell count was made and hemoglobin was read with a Dare hemoglobinometer (measuring 13.88 gm. per 100 cc. as 100%).

In all, 108 full-term infants were studied. Care was taken to exclude those babies who appeared abnormal in any way, those who developed icterus neonatorum within the first or second days of life,

TABLE I.

Cases studied	Age, hr.	Platelets	White Blood Corpuscles	Red Blood Corpuscles	Hemoglobin %
30	0-4	310,000	20,900	6,480,000	120.9
22	5-8	351,000	23,390	6,770,000	119.0
21	9-12	471,000	24,800	6,349,000	116.6
24	13-24	280,000	24,200	6,169,000	113.8
10	25-48	387,000	19,720	6,450,000	108.6

N.B. These figures are averages.

1 McLean and Caffey, *Am. J. Dis. Chil.*, 1925, **30**, 810.
2 Lippman, *Am. J. Dis. Chil.*, 1924, **27**, 473.
3 Jarcho, *Arch. Ped.*, 1930, **47**, 230.
4 Slawik, *Z. f. Kinderheilkunde*, 1920, **25**, 212.
5 Keilmann, *Monatschr. f. Kinderheilkunde*, 1922, **23**, 323.
6 Lucas, *Am. J. Dis. Chil.*, 1921, **22**, 525.
7 Farnow, *Jahrb. f. Kinderheilkunde*, 1926, **112**, 47.

and those who presented signs of dehydration. The results are seen in Table I.

7905 C

Cholesterol of Maternal and Fetal Blood at the Conclusion of Pregnancy.

DAVID ROSENBLOOM. (Introduced by F. H. Falls.)

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This paper concerns the relative concentrations of cholesterol in the maternal and in the fetal circulations. By determining the quantity of a certain substance on both sides of the placenta, evidence can be presented concerning the transmission of that substance through the placenta. Fetal blood is not a simple dialysate or filtrate of the maternal blood, but the placenta exerts a specific and definite selective power over certain of the substances which pass into it and which might conceivably enter the fetal circulation.

The amount of cholesterol in human blood is 150-190 mg. per 100 cc.[1, 2] It is increased in the blood of pregnant women.[3-9] Several investigators have studied cholesterol in maternal and in fetal blood.[10-13]

The modified method of Bloor[14] was used for the cholesterol determinations. Stoppered one-ounce blood bottles containing a small amount of sodium oxalate were included in the sterilizer

1 Hawk and Bergeim, *Practical Physiological Chemistry*, 9th ed., Philadelphia, P. Blakiston and Co., 1926, p. 357.

2 Mathews, *Physiological Chemistry*, 4th ed., New York, Wm. Wood and Co., 1927, p. 29.

3 Barsony, *Zentralbl. f. Gynak.*, 1930, **54**, 1811.

4 Hellmuth, *Zentralbl. f. Gynak.*, 1931, **51**, 802.

5 Strauss and Schubardt, *Zentralbl. f. inn. Med.*, 1922, **43**, 425.

6 Rosen and Krasnow, *Am. J. Obs. Gyne.*, 1927, **14**, 321.

7 Chauffard, Laroche, and Grigaud, *Obstetrique*, Paris, 1911, **4**, 481.

8 Benda, *Arch. f. Gynak.*, 1923, **116**, 508.

9 Fluhmann, *Am. J. Obs. Gyne.*, 1926, **12**, 774.

10 Slemons and Stander, *Bull. Johns Hop. Hosp.*, 1923, **34**, 7.

11 Slemons, *Bull. Johns Hop. Hosp.*, 1916, **27**, 343.

12 Slemons and Stander, *Trans. Am. Soc. for Advancement of Clin. Invest.*, 1918.

13 Slemons and Curtis, *Am. J. Obstetrics*, 1917, **75**, 569.

14 Bloor, *J. Biol. Chem.*, 1922, **52**, 191.