

taking place, in case an ovulation is called forth experimentally and a new corpus luteum is thus made to develop during pregnancy.

In conclusion, we may state that these investigations substantiate the interpretation of the mechanism of the sexual cycle given by us previously as to the existence of two different phases in the cycle; they also confirm our conclusions that in the regulation of the sexual cycle we do not have to deal with one single generative hormone residing in the follicles, but with the complex interaction of at least two and probably an even larger number of substances derived from corpus luteum as well as from follicles.

This is a preliminary report.

¹ Loeb, Leo, *J. Am. Med. Assn.*, 1907, 1, 1809; *Zentralbl. f. allg. Path.*, 1908, xviii, 563; *Arch. Entwicklgsmech.*, 1909, xxvii, 89 and 463; 1911, xxxi, 456; 1911, xxxii, 67.

² Ancel, P., et Bouin, P., *J. de Physiol. et de Pathol. Gen.*, 1911, xiii, 31. Loeb, Leo, and Hesselberg, Cora, *J. Exp. Med.*, 1917, xxv, 285 and 305.

³ Loeb, Leo, *D. Med. Wochens.*, 1911, xxxvii, 17; *J. Morph.*, 1911, xxii, 37. Marshall, F. H. A., and Halnan, E. T., *Proc. Royal Soc.*, Ser. B., 1917, lxxix, 546.

⁴ Loeb, Leo, *Biol. Bull.*, 1914, xxvii, 1; *Trans. Am. Gyn. Soc.*, 1917; *Surg. Gynecol. and Obstet.*, 1917, xxv, 300; *Am. J. Anat.*, 1923, xxxii, 305.

⁵ Allen, E., *Am. J. Anat.*, 1922, xxx, 297. Allen, E., Pratt, J. P., and Doisy, E. A., *J. Am. Med. Assn.*, 1925, lxxxv, 399. Allen, E., Francis, B. F., Robertson, C. C., Johnson, C., Doisy, E. A., Kountz, W. B., Gibson, H., *Am. J. Anat.*, 1924, xxxiv, 133.

⁶ Frank, R. T., *J. Am. Med. Assn.*, 1922, lxxviii, 181; *J. Obstet. and Gyn.*, 1924, viii, 573. Frank, R. T., and Gustavson, R. G., *J. Am. Med. Assn.*, 1925, lxxxiv, 1715.

⁷ Stockard, C. R., and Papanicolau, G. N., *Am. J. Anat.*, 1917, xxii, 225.

⁸ Loeb, Leo, *Proc. Soc. Exp. Biol. and Med.*, 1923, xx, 441.

⁹ Loeb, Leo, *Biol. Bull.*, 1914, xxvii, 30.

3540

Animal Passage Hypoglycaemia.*

J. B. COLLIP.

From the Department of Biochemistry, University of Alberta.

As the writer has never been able to duplicate the results obtained by him in connection with a study of plant extracts containing a hypoglycemia producing substance, and described as animal passage hypoglycemia,¹ he is now of the opinion that such results must have

* This paper received too late to be inserted in its proper order.

been due to an organism. The following observations are the basis for this view:

1. Attempt to purify the unknown agent in passage blood by the use of alcohol always resulted in failure.

2. The addition of tri-cresol to active passage serum as a preservative resulted in complete loss of activity.

3. The phenomenon has been reproduced on 3 different occasions during the past 3 years by using dried passage blood obtained during the original investigation, although the results have never been as clear cut as formerly obtained.

4. From blood cultures of reacting rabbits Dr. Shaw of the Department of Bacteriology of the University of Alberta has obtained an organism of the nature of a coccus, cultures of which injected into rabbits produce death with hypoglycemia. Necrotic changes of the parenchyma of the liver were also observed. Intravenous injections of such a culture produced at first a marked hyperglycemia, later the blood sugar fell and hypoglycemia was present at death. The results are somewhat similar to those described by Menten and Manning.² One fully realizes that such observations do not prove that the original results were due to an organism. The writer feels it his duty, however, to make this statement and to add that he sees no reason to suppose that plant insulin is different from animal insulin. The phenomenon of passage hypoglycemia is something quite apart from insulin action.

¹ Collip, J. B., *J. Biol. Chem.*, 1923, lviii, 163.

² Menten, M. L., and Manning, H. M., *J. Infec. Dis.*, 1925, xxxvii, 400.