

suspension was only slight and transient. The same phenomenon has been observed by others following inoculations of bacterial vaccines.<sup>9</sup> It is probably of no great significance.

The mechanism of leucopenia in kala-azar remains an unsolved problem.

## 8742 P

### Liberation of Acetylcholine from the Perfused Human Placenta.

HSI-CHUN CHANG.

*From the Department of Physiology, Peiping Union Medical College, Peiping, China.*

A fresh human placenta was washed by an intra-arterial saline infusion until the fluid coming from the placenta became colorless. The wet weight having been taken, a piece weighing about 30 gm. was removed and extracted for the basal acetylcholine (hereinafter designated as a.c.) content. The placenta was supported on wire gauze fixed in the middle part of a large funnel, and perfused with a known volume (445-510 cc.) of oxygenated saline by means of a Dale-Schuster pump at a pressure of 90-100 mm. Hg. The whole outfit was kept in a small room which could be readily maintained at body temperature. At hourly intervals, the placenta was detached, weighed and a small piece removed for extraction. The perfusion-fluid was measured and 2 cc. were taken out each time for titrating its a.c.-activity. All the samples of tissue were extracted for 2 hours with 2 volumes of 96% alcohol. The different extracts and the samples of the perfusion-fluid were assayed on the same *rectus*-preparation.<sup>1</sup> The influence of body-temperature, potassium, and eserine has been studied in 5 experiments with uniform results; potassium was suggested for investigation by Feldberg.<sup>2</sup> Fig. 1 illustrates the essential points obtained.

It is evident that the potassium increases a.c. in the perfusion-fluid at the expense of the tissue-a.c., while eserine and an increase of temperature to 36°C. increase a.c. in the tissue as well as in the fluid.

Potassium may be considered to cause a transfer of a.c. from

<sup>9</sup> Wells, C. W., *J. Inf. Dis.*, 1917, **20**, 219.

<sup>1</sup> Chang, H. C., and Gaddum, J. H., *J. Physiol.*, 1933, **79**, 255.

<sup>2</sup> Personal communications.

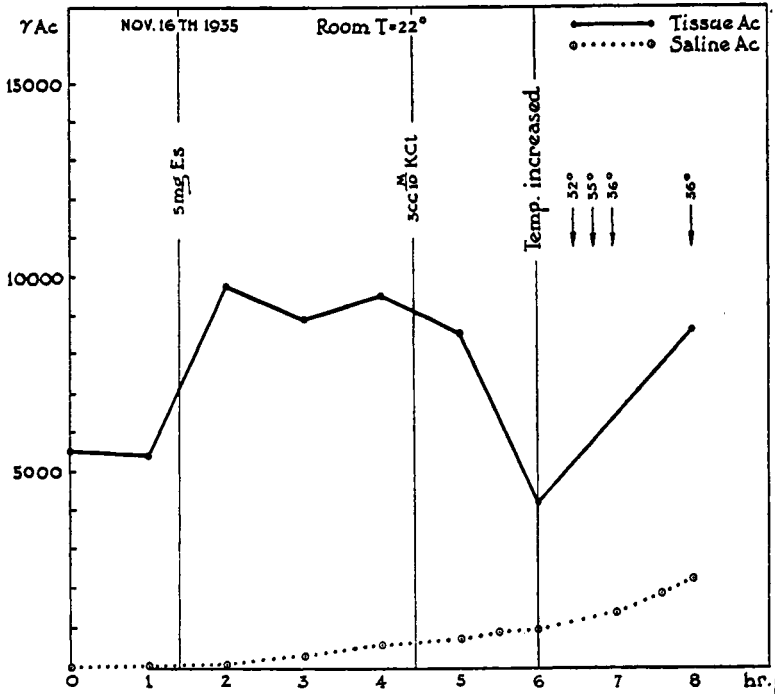


Fig. I

tissue to fluid, as Brown and Feldberg<sup>3</sup> have shown, whereas eserine and heat, confirming our previous experiments,<sup>4</sup> appear to stimulate a new formation of a.c. through some complex mechanism which is as yet not completely known. Mention may be made here that a.c.-genesis by eserine occurs also at 37°<sup>4</sup> and 3°C.<sup>5</sup>

<sup>3</sup> Brown, G. L., and Feldberg, W., *J. Physiol.*, 1935, **84**, 127.

<sup>4</sup> Chang, H. C., *PROC. SOC. EXP. BIOL. AND MED.*, 1935, **32**, 1001.

<sup>5</sup> Unpublished data.