

effect of adding dextrose to the medium is the same after adrenalectomy as before.

It is concluded that oxidative systems are impaired by a deficiency of the adrenal cortex hormones, but the weakening appears to be general in nature rather than restricted to some one component of the oxidation chain.

### 11763

#### Nicotinic Acid as a Growth Factor for *H. Pertussis*.

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It has been shown that *H. pertussis* Phase I will grow in a liquid medium containing only soluble starch, hydrolyzed casein, cystine and salts.<sup>1</sup> Yeast extract was found to stimulate growth but was not essential. Recently it was found that an amino acid mixture could be substituted for the casein. If the inoculum were so small as to carry over no appreciable amount of growth substance from the Bordet Gengou slant, yeast extract was found to be essential for growth. On testing a number of known substances present in yeast, it was found that nicotinamid or nicotinic acid could be substituted for yeast.

To prepare the medium 2 solutions, A and B, are mixed, brought to a volume of 100 cc, adjusted to a pH of 7.4, tubed in 2 cc quantities and autoclaved.

Solution A. NaCl, 0.7 g; KCl, 0.02 g; CaC<sub>12</sub> anhyd., 0.02 g; MgC<sub>12</sub>, 0.01 g; Na<sub>2</sub>CO<sub>3</sub>, 0.05 g; KH<sub>2</sub>PO<sub>4</sub> Mono., 0.025 g; NH<sub>4</sub>Cl, 0.02 g; soluble starch, 0.1 g; water, 50 cc.

The ingredients are mixed, autoclaved, cooled and filtered through paper.

Solution B. d glutamic acid, 0.18 g; l tyrosine, 0.02 g; glycine practical, 0.0045 g; l proline, 0.04 g; l histidine, 0.01 g; d arginine, 0.02 g.

The above are mixed dry and to them is added 0.001 g cystine dissolved in a drop or two of 10 N HCl. 10 cc of H<sub>2</sub>O is added and normal NaOH is added until the acids are in solution.

On incubation the tubes are slanted at an angle of approximately 6 degrees from the horizontal.

<sup>1</sup> Hornibrook, J. W., *Public Health Reports*, 1939, **54**, 1847.

The inoculum, a saline suspension of organisms from a B.G. slant, was progressively diluted until no growth took place in the above medium. At this stage the addition of nicotinic acid or nicotinamid (0.5 to 0.001  $\gamma$  per cc) would allow the organisms to grow.

The above medium is not complete as the addition of a small amount of hydrolyzed casein results in a heavier growth.

*Summary.* Nicotinic acid or nicotinamid favors the growth of Phase I *H. pertussis*.

## 11764

### Effect of Diminishing Doses of Post-Pituitary Extract on Urinary Excretion of Water and Chlorides.

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Previous work has indicated that, when the dose of injected post-pituitary extract is progressively reduced, the excretion rates of water and chlorides were changed independently of one another.<sup>1</sup> The present experiments were designed to extend these observations by following the change in urinary excretion over a wide range of extract dosage. Thus the dose of extract was varied from 3000 milliunits per 100 g of body weight down to 2.5 milliunits. White rats were employed, weighing about 200 g. Each animal was used but once to prevent any possible complication due to sensitization

TABLE I.  
Urine and Chloride Excretion After Various Doses of Post-Pituitary Extract.

| Series | No. animals in series | Milliunits post-pituitary ext. injected | Avg 6-hour excretion |                        |
|--------|-----------------------|---|----------------------|------------------------|
|        |                       |   | Urine, cc/100 g B.W. | Chlorides, mg/cc urine |
| A      | 24                    | 0                                       | 7.4                  | 0.32                   |
| B      | 16                    | 2.5                                     | 7.1                  | 0.29                   |
| C      | 12                    | 5                                       | 6.6                  | 1.22                   |
| D      | 24                    | 10                                      | 6.0                  | 2.40                   |
| E      | 17                    | 25                                      | 5.4                  | 3.14                   |
| F      | 21                    | 50                                      | 4.2                  | 3.98                   |
| G*     | 6                     | 375                                     | 2.7                  | 6.05                   |
| H*     | 6                     | 750                                     | 2.7                  | 8.50                   |
| I*     | 12                    | 1500                                    | 2.2                  | 9.45                   |
| J*     | 6                     | 3000                                    | 2.5                  | 9.35                   |

\*Data taken from Table 3, Silvette, *Am. J. Physiol.*, 1940, **128**, 747.

<sup>1</sup> Silvette, H., *Am. J. Physiol.*, 1940, **128**, 747.