

## REFERENCES

- GILMORE, N. J., VANE, J. R. & WYLLIE, J. H. (1969). Prostaglandin release by the spleen in response to infusions of particles. In *Prostaglandins, Peptides and Amines*, ed. Mantegazza, P. & Horton, E. W., pp. 21-20. London: Academic Press.
- LINDSEY, H. E. & WYLLIE, J. H. (1970). Release of prostaglandins from embolized lungs. In the Press.
- PIPER, PRISCILLA J. & VANE, J. R. (1969). Release of additional factors in anaphylaxis and its antagonism by anti-inflammatory drugs. *Nature, Lond.*, **223**, 29-35.
- THOMAS, D. P., STEIN, M., TANABE, G., REGE, V. & WESSLER, S. (1964). Mechanism of bronchoconstriction produced by thromboemboli in dogs. *Am. J. Physiol.*, **206**, 1207-1212.

**A comparison of the effects of betamethasone and tetracosactrin on hypothalamo-pituitary-adrenal activity in the rat**

J. R. HODGES and SUSAN MITCHLEY\*, *Department of Pharmacology, Royal Free Hospital School of Medicine, London W.C.1*

Hypothalamo-pituitary-adrenal function may be impaired after therapy with corticosteroids or corticotrophin (ACTH). Hypothalamo-pituitary-adrenal activity was studied in male albino Sprague-Dawley rats which had been given prolonged treatment with betamethasone [Betnesol, Glaxo (40 µg/100 g)/24 h for 2 weeks] in the drinking water, or with tetracosactrin (Cortrosyn Depot, Organon 10 µg/100 g injected subcutaneously once a day).

The growth rate of the rats was impaired less by tetracosactrin than by betamethasone. The normal circadian rhythm and the stress-induced rise in plasma corticosterone concentration were absent following treatment with either the steroid or tetracosactrin. Betamethasone-treated rats showed adrenal atrophy and insensitivity to exogenous corticotrophin, in contrast to tetracosactrin-treated animals, in which there was adrenal hypertrophy and an exaggerated plasma corticosterone rise in response to exogenous ACTH.

Both tetracosactrin and betamethasone cause impairment of hypothalamo-pituitary-adrenal function. The effect of betamethasone is due both to insensitivity of the adrenals to ACTH and to an inability of the hypothalamo-pituitary complex to mobilize endogenous corticotrophin. Tetracosactrin, however, leaves adrenal sensitivity unaffected but inhibits ACTH secretion markedly. The findings suggest that the clinical use of ACTH to aid withdrawal of corticosteroids may be contra-indicated.

**The relationship between ascorbic acid concentrations and cortisol production during the development of scurvy in the guinea-pig**

A. ODUMOSU\* and C. W. M. WILSON, *Department of Pharmacology, Trinity College, University of Dublin*

Male guinea-pigs weighing 400 g were fed on an ascorbic acid deficient diet for two weeks with a daily oral supplement of 50 mg of vitamin C, before being given the diet without the supplement for a period of 27 days. Ascorbic acid and cortisol