tion after administration of L-DOPA was exclusively exerted on Iα primary afferent teminals[4,5].

Intraspinal excitability measurements from Iα fibres revealed their increased excitability for several seconds during pinching the skin when amphetamine had been given in a dose of 3–6 mg/kg. It can be concluded that amphetamine opens the pathway from FRA to Iα primary afferents by a mechanism which is probably analogous to the action of both L-DOPA and 5-HTP.

The sensitivity to amphetamine is not the same in all cats. In some experiments a dose of 3 mg/kg of amphetamine was sufficient to cause the complete disappearance of DRP evoked by a single volley of FRA. In these experiments spontaneous activity in the ventral roots usually occurred. Only exceptionally did spontaneous activity appear in the primary afferents, which could be registered only in muscle nerves but not in the cutaneous nerves.

In other cats the effect of amphetamine was not so outstanding and an increased dose of 6 mg/kg did not cause any spontaneous activity. Nevertheless, the depression of the DRP evoked by a single volley to FRA was a constant finding and in some experiments a long-latency response similar to that described after L-DOPA and 5-HTP[5] occurred.

It can be concluded that the effect of amphetamine on spinal reflexes is strikingly similar to that of L-DOPA and 5-HTP, which makes it probable that they affect the same interneuronal pathway in the spinal cord. Further facts are required to show whether amphetamine is a drug from which effective monoamine transmitters can be formed or whether it acts by stimulating the monoaminergic terminals inducing a higher release of the transmitter.

L. Vyklický
V. Tabin

Institute of Physiology,
Czechoslovak Academy of Sciences,
Prague.

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PHARMACOLOGY

Assay of Gonadotrophins by the Deciduoma Method

In this laboratory a method has been developed for measuring the luteotrophic activity of prolactin by the formation of deciduomata in a damaged uterine horn in the hypophysectomized adult mouse[1]. The decidual response was quantal and the percentage of positive responses was transformed into probits. The method was designed as a 4 or 6 point parallel line assay and results were expressed in terms of the 2nd International Standard Prolactin (ovine prolactin, Armour Lab., Lot No. *D* 14083–2*B*, potency 22 I.U./mg).

Human pituitary luteinizing hormone[2] (IRC_2 fraction, potency 1,440 units IRP-HMG/mg by the ovarian ascorbic acid depletion assay (95 per cent fiducial limits 710–2,500 units)) and human chorionic gonadotrophin (CG, Leo, batch No. 162041, 1,500 I.U./mg) induced deciduomata in this assay and their dose-response curves were similar to that of ovine prolactin. Results of assays are shown in Table 1. It will be noticed that both preparations were more active than the reference standard.

Chorionic gonadotrophin, 'Pregnyl' (Organon, commercial preparation, batch No. 9107), was also assayed by the same method and its potency was found to be 62 per cent (95 per cent fiducial limits 44–101) of that of CG Leo when compared in international units CG.

Table 1. Assay of Human Luteinizing Hormone and of Human Chorionic Gonadotrophin by the Deciduoma Assay

Preparation	Result (mg/mg standard with 95 per cent fiducial limits)	Index of precision (λ)
Human pituitary luteinizing hormone, IRC_2	6·92 (4·33–11·80)	0·11
Human chorionic gonadotrophin Leo, 162041	11·39 (6·07–19·31)	0·13

Pregnant mares' serum gonadotrophin ('Gestyl', Organon, Lot No. 9651, 400 units/ampoule) and an extract of the endometrial cup secretion of a pony were assayed by this method and were both found to induce the decidual reaction.

The relative potency of the endometrial cup secretion of the pony, expressed as mg/mg Standard, was 5·24 (95 per cent fiducial limits 2·86–20·96) and the index of precision, lambda, was 0·15. Serum gonadotrophin (PMS) induced the decidual response at 80 units and contained about 14 units of luteotrophic activity per ampoule.

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Nada Kovačić

United Birmingham Hospitals,
Department of Clinical Endocrinology,
Birmingham and Midland Hospital for Women,
Showell Green Lane, Birmingham, 11.

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Metabolic Effects of Oxytocin in the Chicken

Oxytocin has been shown to have marked metabolic effects in several species of experimental animals. These effects can be elicited either by administration of exogenous material or by physiological stimuli inducing the secretion of oxytocin from the posterior pituitary gland. A marked species difference may be seen in the effects[1]. In the chicken the occurrence of the oxytocic principle in the hypophysis is established[2] but its physiological significance remains obscure, and the literature contains little concerning the metabolic effects of oxytocin in the chicken. Possible sex difference in the effects was also investigated, as it was recently noted that such difference occurred in the dog[3].

Adult leghorns of local breed were used in this study. After fasting overnight they were bound on the table, unanæsthetized, undisturbed for at least 1 h. Blood samples were obtained through a thin polyethylene tube inserted deep into the wing vein; two control samples and four or five further samples at 5, 10, 20, 40 and 60 min after intravenous administration of oxytocin ('Syntocinon', Sandoz). Blood samples were transferred to iced and heparinized tubes, then centrifuged. The plasma was separated without delay. Plasma glucose was determined by the glucose oxidase method[4] using 'Glucotest' (Boehringer and) plasma free fatty acids by Dole's technique[5].

Oxytocin caused transient but marked increase in the concentration of both glucose and free fatty acids. Glucose reached its maximum value at 10–20 min, whereas free fatty acid attained its peak at 5 or 10 min, that is, always ahead of glucose (Table 1).

Fig. 1 shows dose response curves obtained in the hen. The results are expressed as percentage increments over control levels, and the maximum changes after oxytocin injection were plotted against the log dose scale. Glucose shows 15 per cent increase with 20 mU/kg and slightly more