

CLINICAL USE OF THE PARATHYROID HORMONE

AS an active extract of the parathyroid glands of oxen will shortly be available to the profession, it is well that a word of warning in regard to its indiscriminate use should be uttered. As only limited experimental clinical data are available it is impossible to state as yet what are the exact uses and limitations of this new hormone.

That it is the essential internal secretion of the parathyroid glands as is insulin the essential internal secretion of the pancreas would seem to have been amply proven. The four salient facts which laboratory study has established in regard to the active parathyroid extract are: (1) That it affords complete replacement therapy when injected into parathyroidectomized dogs; (2) that it causes a mobilization of calcium in the blood; (3) that overdosage (in dogs) produces a typical train of symptoms ending in death; (4) that physiological standardization of the potency of active extracts can be accomplished by determining the blood serum calcium mobilizing effect of single injections into dogs.

The response of animals of different species to injections of the hormone varies enormously; thus, the dog is highly sensitive to this internal secretion, while the rabbit is relatively immune.

A unit of potency has been defined as 1/100th of the amount of active extract which will produce an average increase of five milligrams in the blood serum calcium of dogs weighing twenty kilos. It

has been found that fifteen units per day given by the subcutaneous route is adequate to keep a totally parathyroidectomized dog in normal health. It is probable, therefore, that this amount of the hormone is a fair approximation to the daily production of the intact glands in the normal dog and should be a useful guide in determining dosage for the human subject. Small doses repeated at frequent intervals (a few hours) are cumulative in action and will eventually raise the blood calcium to dangerous levels. As no satisfactory antidote has as yet been found which will relieve the symptoms resulting from overdosage with the hormone, it cannot be too strongly emphasized that overdosage must be absolutely avoided. In clinical practice, therefore, treatment with the hormone should be controlled by blood serum calcium determinations until definite information is available as to adequate dosage and tolerance limits. From the clinical data at present available, it would appear that small doses (ten to twenty-five units) repeated daily or on alternate days may be given with safety. If untoward symptoms such as nausea and vomiting should occur, the extract should be withdrawn.

It has been shown that overdosage phenomena deliberately produced in dogs are favourably influenced by intravenous saline or glucose but this treatment, though helpful, has by no means the virtues of an antidote.

J. B. COLLIP

EPHEDRINE—A NEW (?) SYMPATHOMIMETIC DRUG

FOR more than 5,000 years the Chinese have employed a vegetable drug, known to them as Ma Huang, as a diaphoretic, circulatory stimulant, antipyretic, cough sedative, etc. It was examined chemically in 1888 and an alkaloid isolated; further study indicated its formula to be represented thus:

If this is compared with adrenaline, a striking chemical similarity is apparent.

