

## 10069 P

**Effect of Synthetic Male Hormone Substance on Descent of Testicles in Human Cryptorchidism.\***

JAMES B. HAMILTON AND GILBERT HUBERT. (Introduced by Edgar Allen.)

*From the Department of Anatomy, Yale University School of Medicine, and the Department of Pediatrics, Albany Hospital.*

Anterior pituitary-like substance has been employed with some degree of success in a certain percentage of cases of cryptorchidism.<sup>1</sup> The action is possibly effected through stimulation of the production of male hormone,<sup>2</sup> since male hormone (androgen) is responsible at least in part for testicular descent in monkeys,<sup>3</sup> rats,<sup>4</sup> and as shown in the present report, humans.

Thirty-two cryptorchid males between the ages of 1½ and 27 years received subcutaneous injections of 5 to 20 mg of testosterone propionate† 3 to 7 times weekly, the amount being adjusted to the size and age of the individual and the response to the material. Standard tests<sup>5</sup> were used to differentiate spastic from true retention of the testicle, a procedure vital for the evaluation of the results of any therapy. Twelve cases were pseudocryptorchid (spastic retention); 20 presented a state of true cryptorchidism, 8 bilaterally, 12 unilaterally. There was indication of endocrine abnormality in 8, of familial endocrine disturbance in 6.

Eight cases of bilateral and 9 of unilateral true cryptorchidism have received what is believed to be an adequate course of treatment, the maximum length of which was 5 months.

Descent of the testes with satisfactory placement in the bottom of the scrotum occurred in 1 out of 9 unilateral cases of cryptorchidism, and as follows in the bilateral cases: complete bilateral descent in 3, unilateral descent in 2, partial descent in 2; the remaining case was a hypogonad whose testes were not identified prior to treat-

---

\* Aided by grants from the Committee on Scientific Research of the American Medical Association and the International Cancer Research Foundation.

<sup>1</sup> Shapiro, B., *Z. f. klin. Med.*, 1930, **114**, 610; Engle, E. T., *Endocrinology*, 1932, **16**, 513.

<sup>2</sup> Hamilton, J. B., *Am. J. Physiol.*, 1937, **110**, 325.

<sup>3</sup> Hamilton, J. B., *Anat. Rec.*, 1938, **70**, 533.

<sup>4</sup> Hamilton, J. B., and Leonard, S. L., *Anat. Rec.*, 1938, **71**, 105.

† Testosterone propionate was furnished through the courtesy of the Ciba Company under the trade-name Perandren.

<sup>5</sup> Hamilton, J. B., and Hubert, G., *Endocrinology*, 1935, **21**, 644.

ment, but after injections were located in the scrotum.<sup>6</sup> Surgical means employed in 5 unilateral and 2 bilateral cases not responding to hormone treatment, showed adhesions or other mechanical factors preventing descent in all operated subjects. Penile erections, increased vascularity of the nasal mucosa, and growth of the scrotum, prostate and genital hair were observed. There was no lowering of vocal pitch. Twelve cases of pseudocryptorchidism treated with amounts of male hormone too small to give penile and scrotal growth were sufficient to condition the testes against spastic retention.

## 10070

**Relation Between Size of Dose and Lipotropic Effect of Choline Chloride in Mice.\***

MARY SCOTT WELCH AND ARNOLD DEM. WELCH. (Introduced by C. F. Cori.)

*From the Department of Pharmacology, Washington University School of Medicine, St. Louis.*

In recent years Best and his coworkers have established the effectiveness of choline chloride in preventing (or curing) fatty infiltration of the liver in depancreatized dogs and in rats on a low choline-high fat diet. Preliminary results with mice, chickens and puppies were reported by Best, Huntsman and Solandt,<sup>1</sup> but the choice of animals for choline studies has been restricted essentially to the rat and depancreatized dog.

We have found the mouse an excellent species for the study of the lipotropic action of choline chloride and related compounds, in many ways preferable to the rat. It is possible to complete an experiment satisfactorily in 5 or 6 days, while it has been the custom to conduct rat experiments for 2 to 4 weeks before sacrificing the animals. The reduction in the amount of low choline diet required and of difficultly prepared or expensive compounds related to choline chloride is important also.

---

<sup>6</sup> Hamilton, J. B., *Endocrinology*, 1937, **21**, 649.

\* This investigation has been made with the assistance of a grant from the Committee on Therapeutic Research, Council on Pharmacy and Chemistry, American Medical Association. The authors wish to acknowledge their appreciation of the interest and suggestions of Prof. C. F. Cori.

<sup>1</sup> Best, C. H., Huntsman, M. E., and Solandt, O. M., *Trans. Roy. Soc. Canada*, 1932, Section V, 175.