



Journal of Andrology, Vol 2, Issue 3 169-176, Copyright © 1981 by [The American Society of Andrology](#)

Virilizing Testicular Tumor: *In Vivo* Studies of Steroid Secretion

ROBERT PENNY¹, FRANK Z. STANCZYK², SUSAN B. TURKEL³,
ALLEN L. ISERI¹, UWE T. GOEBELSMANN², AND AND S. DOUGLAS FRASIER¹

¹ Departments of *Pediatrics, University of Southern California School of Medicine, Los Angeles County-University of Southern California Medical Center, Los Angeles, California

² Obstetrics and Gynecology, University of Southern California School of Medicine, Los Angeles County-University of Southern California Medical Center, Los Angeles, California

³ Pathology, University of Southern California School of Medicine, Los Angeles County-University of Southern California Medical Center, Los Angeles, California

Findings in a six-year-old boy with a virilizing tumor of the left testis are presented. His bone age was 14 years. Serum testosterone (5.9 ng/ml), urinary 17-ketosteroid (29 mg/24 hr), and pregnanetriol (14 mg/24 hr) excretion was elevated. These values were not suppressed after the administration of dexamethasone. Spermatic-peripheral vein concentration differences showed that the tumor secreted 17-hydroxypregnenolone, dehydroepiandrosterone (DHEA), dehydroepiandrosterone sulfate (DHEA-S), progesterone, 17-hydroxyprogesterone, androstenedione, testosterone, estrone, estradiol, 11-desoxycortisol, and corticosterone. The tumor did not secrete cortisol. Electron microscopy study of the tumor revealed a dimorphic population of light and dark cells with many features seen in Leydig cell tumors. However, these were not distinct from those of adrenal rest tumors. Reinke crystalloids were not found. True precocious puberty developed five months after tumor removal, ie, the right testis increased in size, and serum gonadotropins increased. Seven months after tumor removal, the patient was demonstrated not to have impaired cortisol synthesis, ie, urinary 17-hydroxysteroids increased from 1.8 to 38.0 mg/24 hr in response to adrenocorticotrophic hormone (ACTH) administration. The differential diagnosis of virilizing testicular tumors lies between Leydig cell adenoma and adrenal rest tumor in congenital adrenal hyperplasia. The demonstration that the patient did not have impaired cortisol synthesis is consistent with his tumor being a Leydig cell adenoma.

Key words: *in vivo* studies of steroid secretion, virilizing testicular tumor, testicular tumor, steroid secretion

Submitted on August 11, 1980
Revised on November 10, 1980
Accepted on November 10, 1980

This Article

- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

Citing Articles

- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by PENNY, R.](#)
- ▶ [Articles by FRASIER, A. S. D.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [Articles by PENNY, R.](#)
- ▶ [Articles by FRASIER, A. S. D.](#)

