Effects of the Pure Antiandrogen RU 23.903 (Anandron) on Sexuality, Aggression, and Mood in Male-to-Female Transsexuals

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Sexuality, aggression, and mood were investigated in 14 presurgical male-to-female transsexuals, undergoing antiandrogenic treatment with anandron, a pure antiandrogen. Subjects were given a test battery the morning prior to treatment onset and after 8 weeks of treatment. In addition they were requested to complete daily forms concerned with sexual behavior and mood. Morning erections and the frequency of thoughts and fantasies about sex decreased after anandron intake. Aggressive feelings were uncorrelated with testosterone level. Moods such as level of energy, feelings of relaxation, fatigue, and feelings of tension and anxiety appeared to fluctuate more as a consequence of anandron intake than did moods such as cheerful, sociable and friendly, gloomy and unhappy, irritated and changeable. The latter remained at a constant level.

KEY WORDS: anandron; transsexuals; sexuality; fantasy; aggression; mood.

INTRODUCTION

Androgens are necessary for normal male sexual functioning (Davidson et al., 1979; Skakkebaek et al., 1981). They are necessary for normal levels of sexual interest ("sexual appetite," Bancroft, 1984; "libido," Davidson, 1984). Furthermore, it is generally agreed that erectile capacity in men

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is not dependent on circulating androgens. Nonsexually elicited erections are apparently androgen-dependent, but this is not the case for sexually elicited erections (Davidson, 1984). There is, however, disagreement over the significance of androgens for cognitive mechanisms involved in the generation of sexual fantasies. Bancroft (1984) interpreted his observations of androgen treatment of hypogonadal men as indicative of a direct influence of androgens on brain functions: Androgens are necessary if erotic fantasy is to result in arousal and erection. Davidson (1984), on the other hand, stressed the importance of androgens for an increased tactile sensitivity of the penis and the pleasurable awareness thereof, and rejected Bancroft's view that testosterone (T) is needed for cognitive mechanisms specifically involved in the production of fantasy. His subjects, unlike Bancroft's, did respond to self-induced sexual fantasies (Kwan et al., 1983; Davidson et al., 1982).

Testosterone is thought to have an activating effect on human aggressive behavior. The evidence, however, is only suggestive of a relationship between androgens and aggression in behaviorally extreme populations, but not behaviorally normal populations (Mazur, 1983; O'Carrol and Bancroft, 1985; Rubin et al., 1981). It is unclear whether this should be ascribed to a truly nonexistent relationship between aggression and T or to methodological pitfalls. Two methodological problems are obvious. First, single blood samples have often been used to determine an individual's androgen status. This is unsatisfactory since T is secreted in episodic bursts, so that several blood samples must be taken over a relatively short period in order to ascertain an average hormone level. Furthermore, the secretion pattern of T has a circadian rhythm; thus the time of day of blood sampling must be held constant for all subjects. Second, aggression was referred to as hostility, irritability, or aggressiveness, which has resulted in differential operationalizations of the concept of aggression, e.g., behavior measurements, paper-and-pencil tests. According to Edmunds and Kendrick (1980) satisfactory methods of measuring human aggression are lacking.

With regard to the relation between T level and mood, research reports are scarce and contradictory. In a study concerning T, status, and mood in human males (Mazur and Lamb, 1980), the results suggested that when a man achieves a rise in status through his own efforts and he has an elation of mood over the achievement, then he is likely to have a rise in T. Houser (1979), however, concluded that positive affect decreases as T level increases.

RU 23.903 [anandron; 5,5-dimethyl-3(4-nitro-3 (trifluoromethyl)-phenyl) 2,4-imidazolidinedione] is a novel and pure antiandrogen. This compound competes successfully with the specific hormone receptors in androgen-sensitive tissues of the organism (skin, prostate, pituitary, central nervous system, etc.). Through this pharmacological action of anandron the biological effects of androgens produced by the organism are blocked. This mode of action allows the investigation of the specific effects of endogenous androgens on the organism.