ORIGINAL RESEARCH—INTERSEX AND GENDER IDENTITY DISORDERS

Sexual Desire in Trans Persons: Associations with Sex Reassignment Treatment

Katrien Wierckx, MD,* Els Elaut, MrSc,† Birgit Van Hoorde, MrSc,† Gunter Heylens, MD,† Griet De Cuypere, MD, PhD,† Stan Monstrey, MD, PhD,‡ Steven Weyers, MD, PhD,§ Piet Hoebeke, MD, PhD,¶ and Guy T'Sjoen, MD, PhD*†

*Department of Endocrinology, Ghent University Hospital, Ghent, Belgium; †Center for Sexology and Gender Problems, Ghent University Hospital, Ghent, Belgium; ‡Department of Plastic Surgery, Ghent University Hospital, Ghent, Belgium; §Department of Gynaecology, Ghent University Hospital, Ghent, Belgium; ¶Department of Urology, Ghent University Hospital, Ghent, Belgium

DOI: 10.1111/jsm.12365

ABSTRACT

Introduction. Sex steroids and genital surgery are known to affect sexual desire, but little research has focused on the effects of cross-sex hormone therapy and sex reassignment surgery on sexual desire in trans persons.

Aim. This study aims to explore associations between sex reassignment therapy (SRT) and sexual desire in a large cohort of trans persons.

Methods. A cross-sectional single specialized center study including 214 trans women (male-to-female trans persons) and 138 trans men (female-to-male trans persons).

Main Outcome Measures. Questionnaires assessing demographics, medical history, frequency of sexual desire, hypoactive sexual desire disorder (HSDD), and treatment satisfaction.

Results. In retrospect, 62.4% of trans women reported a decrease in sexual desire after SRT. Seventy-three percent of trans women never or rarely experienced spontaneous and responsive sexual desire. A third reported associated personal or relational distress resulting in a prevalence of HSDD of 22%. Respondents who had undergone vaginoplasty experienced more spontaneous sexual desire compared with those who planned this surgery but had not yet undergone it ($P = 0.03$).

In retrospect, the majority of trans men (71.0%) reported an increase in sexual desire after SRT. Thirty percent of trans men never or rarely felt sexual desire; 39.7% from time to time, and 30.6% often or always. Five percent of trans men met the criteria for HSDD. Trans men who were less satisfied with the phalloplasty had a higher prevalence of HSDD ($P = 0.02$).

Trans persons who were more satisfied with the hormonal therapy had a lower prevalence of HSDD ($P = 0.02$).

Conclusion. HSDD was more prevalent in trans women compared with trans men. The majority of trans women reported a decrease in sexual desire after SRT, whereas the opposite was observed in trans men. Our results show a significant sexual impact of surgical interventions and both hormonal and surgical treatment satisfaction on the sexual desire in trans persons. **Wierckx K, Elaut E, Van Hoorde B, Heylens G, De Cuypere G, Monstrey S, Weyers S, Hoebeke P, and T'Sjoen G. Sexual desire in trans persons: Associations with sex reassignment treatment. J Sex Med 2014;11:107–118.**

Key Words. Gender Identity Disorder; Transsexual; Sexual Desire; Sexual Functioning; Cross-Sex Hormone Therapy

Introduction

Hormonal therapy is an established part of gender dysphoria treatment and induces secondary sex characteristics development of the desired sex while reducing those of the natal sex [1].

Trans women (male-to-female transsexual persons) at our center generally receive cyproterone acetate together with oral or transdermal estrogens to induce feminization [1]. Female-to-male transsexual persons, denoted as trans men, generally receive progestins to suppress menstruation and intramuscular testosterone preparations to induce virilization [1,2].

It is well known that sex steroids play a role in motivational aspects of sexual functioning such as sexual desire, particularly in cisgender men [3]. Numerous studies have observed an improvement in sexual desire during T administration in hypogonadal young and aging men [4–6] but not in eugonadal men [7]. Whether T treatment resulting in supraphysiological levels of testosterone increases sexual desire is less clear as one study [8] observed a significant increase, whereas another did not [9].

In contrast, our current knowledge about the role of androgens in female sexual desire is still scarce with inconsistent and often contradictory evidence [3]. In epidemiological studies, serum T levels were not correlated with sexual desire in cisgender women [10,11], whereas other studies did observe an association [12,13]. Also, evidence concerning the effects of oral contraceptives on sexual desire, which are known to decrease free testosterone levels [14], are conflicting [15]. Furthermore, several studies [16,17], but not all [18], observed that T supplementation in surgical or natural menopausal women increases sexual desire.

Effects of estrogens on sexual desire in both cisgender men and women are poorly understood [3]. Given that T is aromatized into estradiol (E2) in many tissues, it may be possible that effects of T on sexual desire are mediated by E2. Only a few studies examined the relation between sexual desire and circulating E2 levels in cisgender men but most studies observed no clear associations [19,20]. However, as E2 is known to exert an important role in the negative feedback of T in men at both the hypothalamic and pituitary levels, administration of exogenous estrogens has been used historically as an antiandrogen treatment in prostate cancer patients and sex offenders, where a reduction in sexual desire was observed [3]. In cisgender women, some [21], but not all [22,23], studies observed associations between E2 levels and sexual desire. Several studies examining the effects of estrogen therapy in postmenopausal women found an increase in sexual desire [23,24]. However, others reported that high doses of estrogens were associated with lower sexual desire [25,26].

In view of the effects of sex steroids on sexual desire in cisgender men and women, several effects of cross-sex hormone therapy on sexual desire in trans persons can be hypothesized. In trans women, a decline in serum T levels or T action together with increased sex hormone binding globulin and high E2 levels may lower sexual desire, whereas in trans men, increasing serum T levels may facilitate sexual desire. However, these theoretical effects may be influenced in trans persons because of prior brain masculinization or feminization. Aside from effects of cross-sex hormone therapy, the experience of breast augmentation and removal, genital surgery and post-surgical outcome clearly affects sexual functioning in trans persons [27–32]. Sex reassignment surgery (SRS) in trans women consists of orchidectomy, penectomy, and vaginoplasty. SRS in trans men includes mastectomy, hysterectomy, and oophorectomy. Due to availability and extensive experience at our center, most trans men proceed immediately with phalloplasty (creation of a full-sized phallus) [33].

Considering the important potential effects of both hormonal treatment and genital surgery, the current knowledge of the effect of sex reassignment therapy on sexual desire is limited and based on small sample studies. Evidence concerning sexual desire in trans women is conflicting as some studies using direct or indirect measures of sexual desire observed no change [34,35] or decrease [27,28,36], whereas others observed an increase after sex reassignment treatment [29,37,38]. In trans men, a single study investigated sexual desire directly [39], whereas others used indirect measures such as frequency of masturbation [27,35,36] and sexual activity [37].

The present study aimed to investigate the effects of sex reassignment therapy on sexual desire in a well-described, large cohort of both trans men and women almost all treated by the same endocrine and surgical team.

Methods

Study Procedures and Population

All persons who were diagnosed with gender dysphoria/transsexualism (*Diagnostic and Statistical*