ORIGINAL RESEARCH—INTERSEX AND GENDER IDENTITY DISORDERS

Gender Reassignment Surgery in Male-to-Female Transsexualism: A Retrospective 3-Month Follow-up Study with Anatomical Remarks

Ladislav Jarolím, MD, PhD,* Jiří Šedý, MD, PhD,† Marek Schmidt, MD,* Ondřej Naňka, MD, PhD,‡ René Foltán, MD, DMD, PhD, FEBOMFS,§ and Ivan Kawaciuk, MD, PhD*

*Department of Urology, Second Faculty of Medicine and University Hospital Motol Charles University, Prague, Czech Republic; †Institute of Experimental Medicine and Institute of Physiology, Academy of Sciences of the Czech Republic, Prague, Czech Republic; ‡Institute of Anatomy, First Faculty of Medicine, Prague, Charles University, Czech Republic; §First Faculty of Medicine, Charles University, Prague, Czech Republic

DOI: 10.1111/j.1743-6109.2009.01245.x

ABSTRACT

Introduction. Greater acceptance of sexual minorities has enabled people with transsexualism access to adequate treatment and social integration. Gender reassignment surgery is a complex phase in the care of transsexual patients. In response to a greater volume of patients, surgical techniques have evolved and the outcome in patients with male-to-female transsexualism is now a very accurate imitation of female genitalia, enabling sexual intercourse with orgasm.

Aim. To evaluate the results of surgical reassignment of genitalia in male-to-female transsexuals.

Methods. A retrospective 3-month follow-up study of patients' opinions following gender reassignment surgery in 129 patients having a primary procedure (eight of whom had later sigmoideocolpoplasty) and five patients undergoing reoperation following an initial unsuccessful procedure at other units. All patients were male transsexuals. The surgical techniques are described in detail.

Main Outcome Measures. Sexual functions and complications 3 months after surgery.

Results. All patients were satisfied with the first phase operation. Thirteen patients (9.7%) underwent successful sigmoideocolpoplasty. Main complications were as follows: rectal lesions developing during preparation of the vaginal canal (1.5%); bleeding from the stump of the shortened urethra in the first 48 hours postoperatively requiring secondary suturing (4.5%); temporary urinary retention requiring repeated insertion of urinary catheters for up to 6 days (5.2%); and healing of the suture between the perineum and the posterior aspect of the vaginal introitus healing by secondary intention (5.2%). The neoclitoris had erogenous sensitivity in 93.9% of patients and 65.3% reached orgasm in the first 3 months.

Conclusions. Surgical conversion of the genitalia is a safe and important phase of the treatment of male-to-female transsexuals. **Jarolím L, Šedý J, Schmidt M, Naňka O, Foltán R, and Kawaciuk I. Gender reassignment surgery in male-to-female transsexualism: A retrospective 3-month follow-up study with anatomical remarks. J Sex Med 2009;6:1635–1644.**

Key Words. Male-To-Female Transsexualism; Sex Reassignment Surgery; Anatomy

Introduction

Transsexualism is a sexual identification disorder. Patients have genetic, somatic, and hormonal characteristics of one sex, but their sexual identification is with the opposite sex. Gender identity refers to subjectively felt agonism or antagonism with one's own body, with its primary and secondary signs of gender, and the social roles attributed by particular social and cultural environments to that gender. Transsexual people permanently feel they are a person of the opposite gender to the one they were born as, and they express the desire to act as a person of opposite gender.

Transsexualism was first described in detail by Dr. H. Benjamin in 1953 [1]. In 1978, he founded an international organization which originally bore his name—the Harry Benjamin International Gender Dysphoria Association, now known as the World Professional Association for Transgender Health—which has played an important role in expanding knowledge about transsexualism [2]. It developed a protocol for treating transsexual patients, which delineates time periods for particular diagnostic and treatment steps to differentiate transsexualism from other disorders. Mistakes in diagnosis and inappropriate gender reassignment can lead to irreversible damage, so it is important to exclude homosexuality, psychosis, psychopathy, organic brain lesions, and transvestitism.

Following appropriate diagnosis, psychotherapeutic preparation for gender reassignment is started. Before surgery, male patients spend 12 months living as a female and undergo at least 6 months of continuous hormonal treatment [3,4], during which time they are monitored to see whether they are adapting to their new social roles. Surgery, however, remains the cardinal treatment point. It is appropriate for people who suffer long-term discomfort created by their unacceptable gender, such as a fear of developing sexual signs and reaching adolescence. The decision to undergo surgery should be made in conjunction with a sexual therapist following long-term psychological observation. In our unit, the final decision is made by a specialized panel, at least two members of which must be specialists in sexual therapy, one in psychiatry, and one in gynecology or urology, assisted by a clinical psychologist and a lawyer. The panel is organized by the hospital where the surgery will be performed. Following surgery and legalization of the gender reassignment, long-term sexual and physical rehabilitation is necessary to maintain and improve the function of the new genitals.

Epidemiological studies on transsexualism have produced differing data. De Cuypere found the prevalence of male transsexualism in Belgium to be 1:12,900 [5]; Kuhn's figure was three times lower, at 2.4:100,000 people [6]. In Sweden, the ratio of the incidence of male and female transsexualism changed from 1:1 in the 1960s to 2:1 in the 1990s [7]; in Serbia, the ratio is currently 1:1 [8]. Explanations for these discrepancies include differences in the readiness and ability of the medical profession to treat this disorder.

We examined patient satisfaction with male-to-female gender reassignment surgery over a 16-year period and describe the procedures used in detail.

Materials and Methods

Patients

One hundred thirty-four patients with male-to-female transsexualism were operated on from 1992 to 2008. Their mean age was 31.0 ± 0.8 years (range 18–54 years). Mean body mass index of patients was 23.2 ± 0.3 (range 17.8–33.9). All patients were white Caucasians. One patient has been contraindicated to surgery due to severe coagulopathy (not included in the sample). Patients did not have many important comorbidities (Table 1). Combined hormonal pretreatment, consisted of estrogene (estradiolum) and antiandrogene (cyproteron acetate), lasted for at least 9 months before surgery (mean duration 20.2 ± 1.5 months; range 9–123 months) and stopped 10–14 days before surgery to prevent tromboembolic complications. Moreover, low molecular weight heparin (enoxapatin 2 000 anti-Xa international units (IU)/day or nadroparin 2 850 anti-Xa IU/day) was administered for 5–7 days after the surgery. The surgery was divided in two phases. First, orchiectomy and penectomy, together with formation of the neovagina, vulva, and neoclitoris, were performed. The second phase focused on the configuration of the anterior vulval commissure

Table 1 The occurrence of important actual and previous comorbidities

Condition	No. of cases	% of all
Actual diseases		
Gilbert syndrome	3	2.2
Hepatitis C	2	1.5
Hepatitis B	1	0.7
Hypertension	1	0.7
Previous diseases		
Syphylis, second state	1	0.7
Deep venous trombosis	3	2.2