

TRANSGENDER HEALTH

Genital Sensory Detection Thresholds and Patient Satisfaction With Vaginoplasty in Male-to-Female Transgender Women



Marianne LeBreton, MA,¹ Frédérique Courtois, PhD,¹ Nicolas Morel Journal, MD,² Dominic Beaulieu-Prévost, PhD,¹ Marc Bélanger, PhD,³ Alain Ruffion, MD, PhD,² and Jean-Étienne Terrier, MD²

ABSTRACT

Introduction: Gender-affirming surgery is common for the treatment of gender dysphoria, but its effect on genital sensitivity is not well known.

Aims: To investigate genital sensory detection thresholds in male-to-female transgender women postoperatively and their relation to psychological well-being and variables of satisfaction.

Methods: Prospective study on 28 transgender women at least 18 years old operated on at least 3 months before the study by a single surgeon (N.M.J.).

Main Outcome Measures: Medical complications; sensory detection thresholds for light touch, pressure, and vibration; and questionnaires on general and sexual satisfaction, sexual function, depression, and psychological well-being.

Results: Sensory detection thresholds ranged from 0.07 to 2.82 g for light touch, with the neck being most sensitive; from 20.23 to 34.64 g for pressure, with similar results for the neck and clitoris; and from 0.0052 to 0.0111 V for vibration, with similar findings for all stimulation points. Satisfaction with the appearance of the labia, vulva, clitoris, and sexual function was good to very good. Frequency of sexual activities increased significantly postoperatively for orogenital stimulation and decreased significantly for frequency of fantasies ($t = -4.81$; $P < .0001$). Orgasmic function was reported by 80% of participants. Psychological adjustment was good to very good, with low depression scores. Sexual satisfaction was statistically and positively correlated with vaginal function and depth, clitoral sensation, appearance of the vulva and labia minora, and natural lubrication and negatively correlated with depression scores.

Conclusion: Gender-affirming surgery yields good results for satisfaction with appearance and function. Genital sensitivity showed the best results with pressure and vibration. **LeBreton M, Courtois F, Journal NM, et al. Genital Sensory Detection Thresholds and Patient Satisfaction With Vaginoplasty in Male-to-Female Transgender Women. J Sex Med 2017;14:274–281.**

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Key Words: Perineal Sensory Detection Threshold; Sex Reassignment Surgery; Vaginoplasty; Transgender Women

INTRODUCTION

The World Professional Association for Transgender Health has established standards of care for the diagnosis and treatment of transgender patients, whereby gender-affirming surgery (GAS)

is considered medically necessary to relieve gender dysphoria in transgender individuals. This often follows institutionally determined guidelines such as experience living as one's preferred gender, psychotherapy, and hormonal therapy.¹

Recent reports have shown an increase in the prevalence of gender incongruence, ranging from 1 in 10 to 1 in 25,000 for male-to-female (MtF) transgender individuals, hereafter referred to as transgender women.^{1–6} The prevalence rate is likely underreported. In fact, some studies have suggested that GAS demands have increased recently as a result of increasing social acceptance, recognition by the medical community, and improved access to insurance coverage in many countries.^{7,8}

Vaginal reconstruction surgery for MtF transgender women offers three main techniques: sigmoid or ileal vaginoplasty, penile

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¹Department of Sexology, Université du Québec à Montréal, Montreal, QC, Canada;

²Department of Urology, Hospices Civils de Lyon, Lyon, France;

³Department of Kinanthropology, Université du Québec à Montréal, Montreal, QC, Canada

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skin inversion vaginoplasty, and penoscrotal vaginoplasty. All involve orchidectomy, resection of the corpora cavernosa, and the creation of a neovagina.^{2,8–11}

The success of GAS is often determined based on patient satisfaction. In a study of 197 transgender women, Goddard et al¹² noted that 174 participants (88%) were satisfied with the functional and cosmetic results of vaginoplasty. Lawrence¹³ reported an average score of 7.8 of 10 for overall happiness with genital sexual function (N = 232); however, sexual satisfaction was rated lower. Furthermore, De Cuyper et al¹⁴ noted that among 29 sexually active participants (N = 32), half (50%) felt sexually satisfied, whereas one fourth (25%) were neither satisfied nor unsatisfied and one fourth (25%) felt unsatisfied. These investigators found a positive correlation between a patient's satisfaction with vaginoplasty and improvement in her sexual life. More recently, Djordjevic et al¹¹ reported a 77% satisfaction rate in patients who underwent rectosigmoid vaginoplasty.

One of the goals of GAS, aside from establishing congruence with the patient's gender identity, is the preservation of erogenous sensitivity to ensure adequate postoperative sexual function and the ability to reach orgasm.¹⁵ Hage et al^{16,17} described the first surgical technique to create a neoclitoris. Currently, most surgeons use the dorsal portion of the glans penis and the dorsal neurovascular pedicle^{16–18} to obtain good sensitivity. With this specific procedure, the ability to reach orgasm after GAS has been reported by 81% to 100% of MtF women.^{2,10,13,19,20} Although assessment of genital sensitivity in transgender women after vaginoplasty²¹ has seldom been measured, data from Selvaggi et al²¹ suggest that clitoral sensitivity to pressure and vibration does not statistically differ from that of the glans penis in cisgender men.²²

Given the few studies assessing the effect of GAS on genital sensitivity, there is a need to investigate genital sensitivity and its potential correlates with variables such as surgical complications, general and sexual satisfaction, and postoperative ability to reach orgasm.

AIM

The aim of this study was to establish the sensory detection thresholds of the genitals compared with control points in transgender women and to investigate their correlation with medical complications and postoperative satisfaction with the appearance and function of the constructed genitals.

METHODS

Recruitment

Seventy-six transgender women who underwent vaginoplasty performed by a single surgeon (N.M.J.) using the penoscrotal skin flap technique and clitoroplasty with the dorsal glans pedicled flap were invited to participate in the study. Inclusion criteria were age at least 18 years and a post-vaginoplasty delay of

at least 3 months. Participants were excluded if they had any pathology that might alter genital sensitivity or sexual functioning (eg, diabetes, genital sores). The university's research ethics board approved the project and all participants signed an informed consent form.

Participants

Of the 76 eligible MtF patients, 28 agreed to participate, 10 refused, two did not attend their scheduled appointment, two were ineligible because of recent secondary surgery, one died of causes unrelated to vaginoplasty, and the remaining 33 could not be reached. Reasons for refusal to participate in the study included unavailability because of work (n = 4), distance from the hospital (n = 4), or unease with the testing procedure (n = 2). Of the 28 participants who agreed to partake in the experiment, three were excluded from data analysis because one participant fell asleep during testing (on anxiolytic medication), one had myoclonus (potential sign of a neurologic disorder), and one showed unreliable results (declared feeling stimulation when none was applied). After exclusion and dropout, 25 patients were included in the study.

Table 1 lists the participants' characteristics including socio-demographic information and self-reported sexual orientation. Most participants were sexually active and most identified as heterosexual, with 14 patients reporting being in a relationship with a man, one with a woman, one with a woman and a man, and one with a MtF transsexual woman.

Surgical Technique

Vaginoplasty and clitoroplasty were performed using the penoscrotal inversion technique described by Karim et al.²³ A posterior-based penile skin flap with a scrotal skin graft was used to line the neovagina; a sensate clitoris was constructed from the dorsal part of the glans penis with the penile neurovascular bundle embedded; and part of the bulbar urethra was sutured to the external skin to mimic the labia minora.

Outcome Measurements

Genital sensitivity was assessed with validated instruments,^{24,25} including Semmes-Weinstein monofilaments²⁶ for light touch, the vulvalgesiometer²⁷ for pressure, and a Vibralgic 4 device (set at 64 Hz; Electronic Conseil, Ales, France) for vibration. Sensory detection thresholds were measured on control points below the ears and on the abdomen (2 cm from hip bone) and points on the neoclitoris, labia minora (left and right), vaginal opening (left and right), and anus (left and right). Stimulation was applied according to the Bekesy method of limits²⁸ using three steps: an ascending phase, beginning at the lowest stimulation level and then increased until perceived; a descending phase, beginning two levels above the previously detected threshold and then decreased until no longer perceived; and a repeated ascending phase. The average of the three was computed as the detection threshold for each stimulation point.

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