

Robot-Assisted Vaginoplasty: A Multidisciplinary Technique for Gender Affirmation

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Purpose

Gender affirmation bottom surgery is a critical component in treating gender dysphoria. However, male to female vaginoplasty is associated with many complications. The authors describe a multidisciplinary robotic-assisted technique to alleviate these complications.

Methods

All patients undergoing robot-assisted vaginoplasty were included. A star-shaped perineal flap was raised from the base of the scrotum to the base of the penis to construct the inferior neovaginal introitus. The neoclitoris was constructed from the dorsal glans penis by utilizing an inverted-W incision and raised on a neurovascular pedicle superficial to the investing fascia of the corpora. The penile skin was then degloved. Urethroplasty was performed by separating the urethra from the corpora down to the pubic bone and creating a new urethral meatus at the base of the corporal crus stumps following penectomy. The Da Vinci robot (Intuitive, Sunnyvale, CA) was utilized to carefully create the neovaginal canal space in the plane of the rectoprostatic fascia via an abdominal approach through the peritoneal reflection as well as to harvest a peritoneal graft. This graft is used as a strip of mucosal-like tissue for a more anatomic neovagina and is sutured to the scrotal skin graft over a vaginal conformer (Figure 1). The construct is sutured to the remaining penile shaft skin and then then inverted and passed through the perineal body into the described robotically-created space. The apex of the neovaginal lining created by the skin graft-peritoneal graft construct is then sutured to the peritoneal reflection with barbed suture in 2 layers intra-corporally via the robot. Vaginal packing is placed for the entire depth of 15 cm and removed in the OR on post-operative day 5 under sedation.

Results

Ten vaginoplasties were successfully performed. One patient developed stenosis postoperatively and one developed partial introital necrosis; after minor revision both healed successfully. There were no intra-abdominal complications. Patients had an average introitus width of 3 cm and vaginal depth of 12 cm at a mean follow-up of 14.8 months. All patients were cleared for sexual intercourse at last follow-up, all able to achieve orgasm through direct neo-clitoral stimulation and all had return of sensation to light touch of the neo-clitoris.

Conclusion

Robotic-assisted vaginoplasty is safe and effective with a low complication and high patency rate.



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