

# „Spacing technique“ for creation of neovaginal canal in male to female gender affirming surgery

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## Introduction:

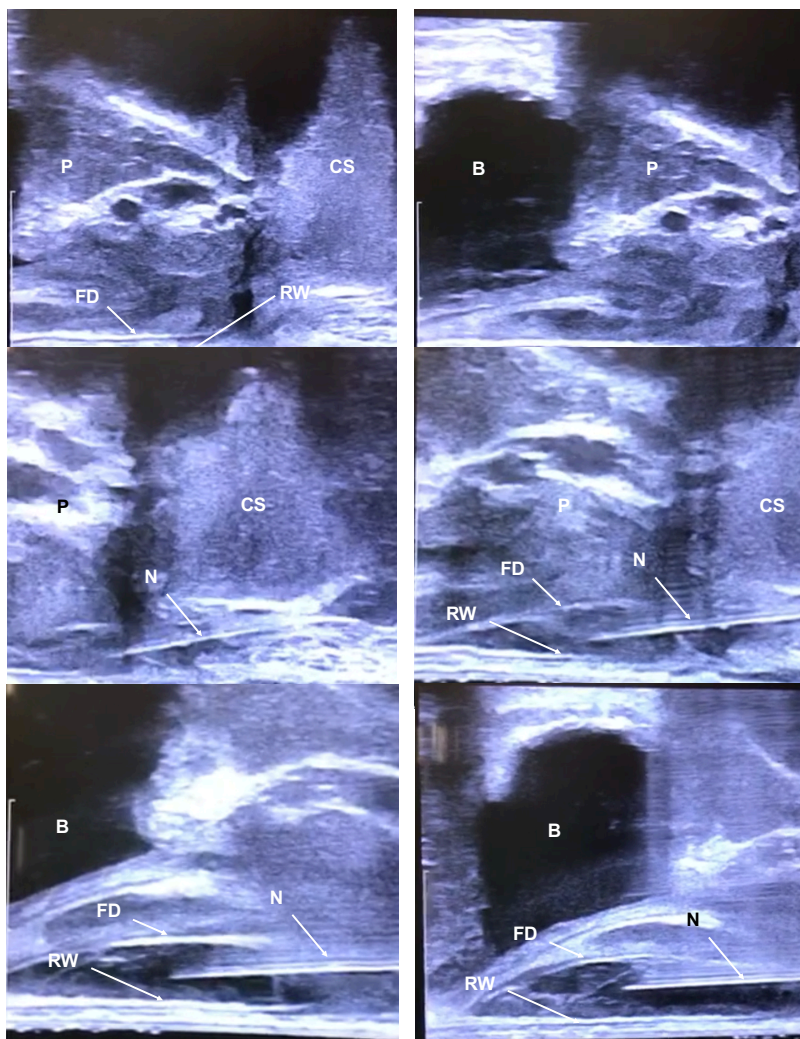
Creating the neovaginal canal is one of the most delicate details of gender affirming surgery (GAS). The anatomically correct location is between the rectum and the prostate. We describe a novel spacing technique (NST) that simplifies this part of surgery. Secondly, clinical outcomes of patients with NST were retrospectively compared to those receiving standard vaginoplasty (SV).

## Material and methods:

In the NST group a TSK-Supra-Needle (20 Gauge, 120 mm length) was placed under direct transrectal ultrasound guided visual control between the fascia of Denonvillier and the anterior rectal wall. Injection of 40 – 60 ml normal saline pushes the structures apart and positions the anterior rectal wall temporarily away from the prostate. For better intraoperative visualization we dyed the hydrodistended space with a few drops of methylenblue. Between June 2018 and October 2019 in total 43 transwomen received GAS with NST. The SV group comprised 50 transwomen who were operated on between May 2017 and June 2018. Otherwise there were no differences in the peri- and postoperative treatment between these two groups. All 93 surgeries have been performed by the same surgeon.

## Results:

NST was performed immediately prior to GAS. Patients in both groups did not differ in age (SV  $37.58 \pm 13.94$ , range 16 - 67 years vs. NST  $37.47 \pm 13.70$ , range 19 - 65 years,  $p=0.97$ ) or BMI (SV  $25.7 \pm 5.1$  vs. NST  $28.3 \pm 12.6$  kg/m<sup>2</sup>;  $p=0.18$ ). Vaginal depth and width were larger in NST patients compared to SV patients ( $14.5 \pm 0.7$  cm vs.  $13.2 \pm 2.2$  cm;  $p=0.001$ ;  $4.0 \pm 0.2$  cm vs.  $3.7 \pm 0.4$  cm;  $p<0.001$ ). There was no statistically significant difference in occurrence of intraoperative rectal perforation (SV:  $n=1$ , NST:  $n=0$ ;  $p=0.357$ ). Total OR-time could be reduced when hydrodistension was performed before vaginoplasty (SV  $224.3 \pm 33.3$  min. vs. NST  $200.8 \pm 30.8$  min.;  $p=0.001$ ).



Abbreviation:

CS = corpus spongiosum;

P = prostate;

RW = anterior rectal wall;

B = bladder;

N = needle;

FD = fascia of Denonvillier

## Conclusion:

The novel "spacing technique" is a promising and easy to perform technique, which simplifies the preparation of the neovaginal canal during GAS and may facilitate preparation of neovaginal canal during male to female gender affirming surgery.