



COMPARISON OF CHEST FEMININITY OF TRANSGENDER WOMEN WITH HORMONE TREATMENT VS. SURGICALLY AUGMENTED WITH BREAST IMPLANTS

Agnes Zhu, B.S.1; Steven Callori, M.P.H.1, Thanapoom Boonipat, M.D.2; Nathan SD Hebel, B.S.1; Jorys Martinez-Jorge, M.D.2
1. Mayo Clinic Alix School of Medicine 2. Mayo Clinic Department of Plastic Surgery
Mayo Clinic, Rochester, MN

Objectives

Background and Need:

- For male-to-female transgender patients, there is often the innate assumption that surgical breast augmentation will increase perceived chest femininity beyond hormone therapy alone.
- However, there are few studies that compare the outcomes of breast augmentation and hormone therapy in terms of chest femininity in this patient population.

Future Implementation:

- Study results may be incorporated in pre-surgical counseling to help inform patient decision-making regarding breast augmentation in terms of its impact on perceived femininity.
- Future studies will examine other subjective procedures to assess the objective change in perceived femininity.

Methods

Image Collection and Alteration:

- Images of cisgender male (n=17) and cisgender female (n=21) controls were obtained and matched for BMI and age. (Figure 1)
- Obtained pre-surgical (maximal breast growth on hormone therapy) and post-surgical images (breast development from hormones and surgical augmentation) of our 22 transgender patients in a retrospective fashion. (Figure 2)
- All images were photoshopped to remove body hair, scars, clavicles, and body art such as piercings and tattoos.

Survey and Data Analysis:

- 271 survey participants each rated 20 randomly assigned images.
- Collected survey participant demographic information included race (183 white, 56 Asian, 26 Black or African American, 6 other), gender identity (179 male, 91 female, 1 non-binary; 74 transgender, 193 not transgender, 4 prefer not to say), & sexual orientation (163 heterosexual / straight, 101 bisexual, 7 gay or lesbian).
- Data analysis was conducted using ANOVA and Tukey's method.

Results

Masculinity Score (1=very feminine, 5=very masculine): Whole group analysis

- Survey participants rated masculinity of each chest image on a scale of 1 (very feminine) to 5 (very masculine) (Table 1).
- There was a significant difference in mean masculinity score between all image types. Mean masculinity score for transgender patients fell by 0.478 points after surgery (p<0.0001).

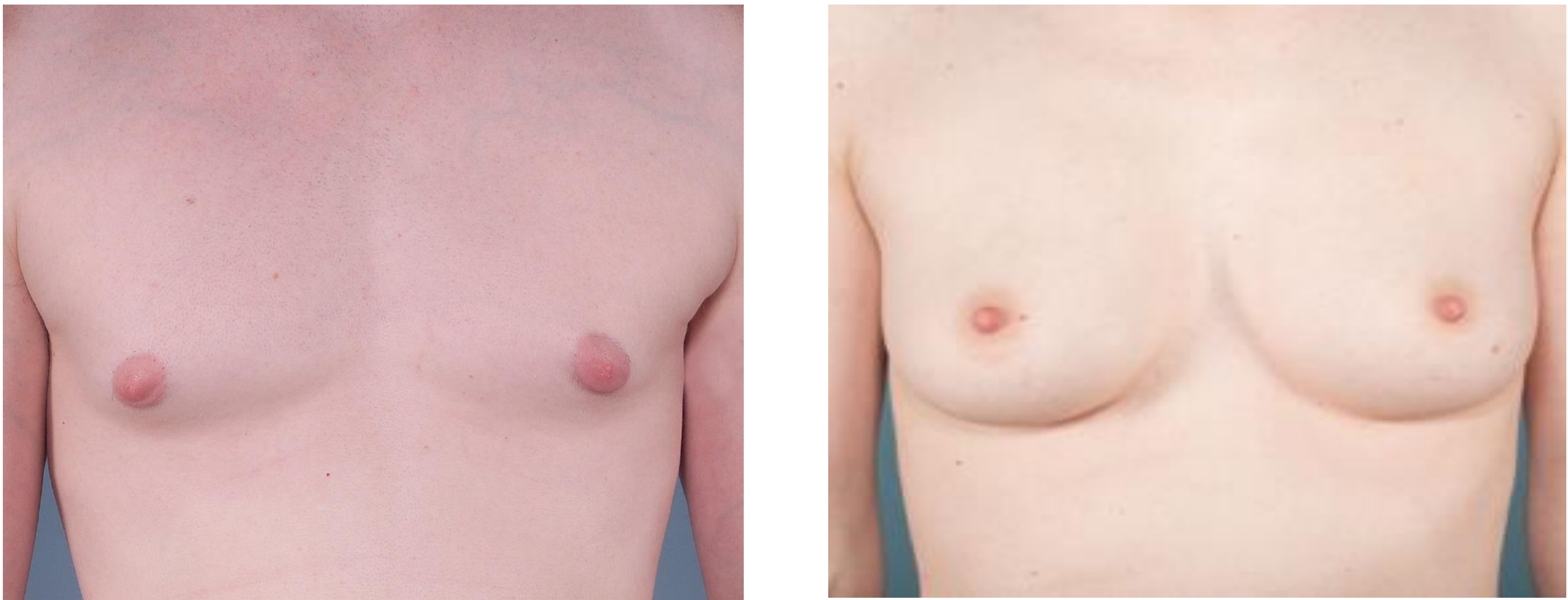
Transgender survey respondent sub-group analysis

- Transgender survey respondents rated every image group more masculine than non-transgender respondents, except for male controls.
- Transgender participants also found post-operative images to be significantly more feminine than pre-operative images.
- Transgender respondents found no difference in masculinity between female controls and postoperative transgender patients (p=0.132).

Table 1

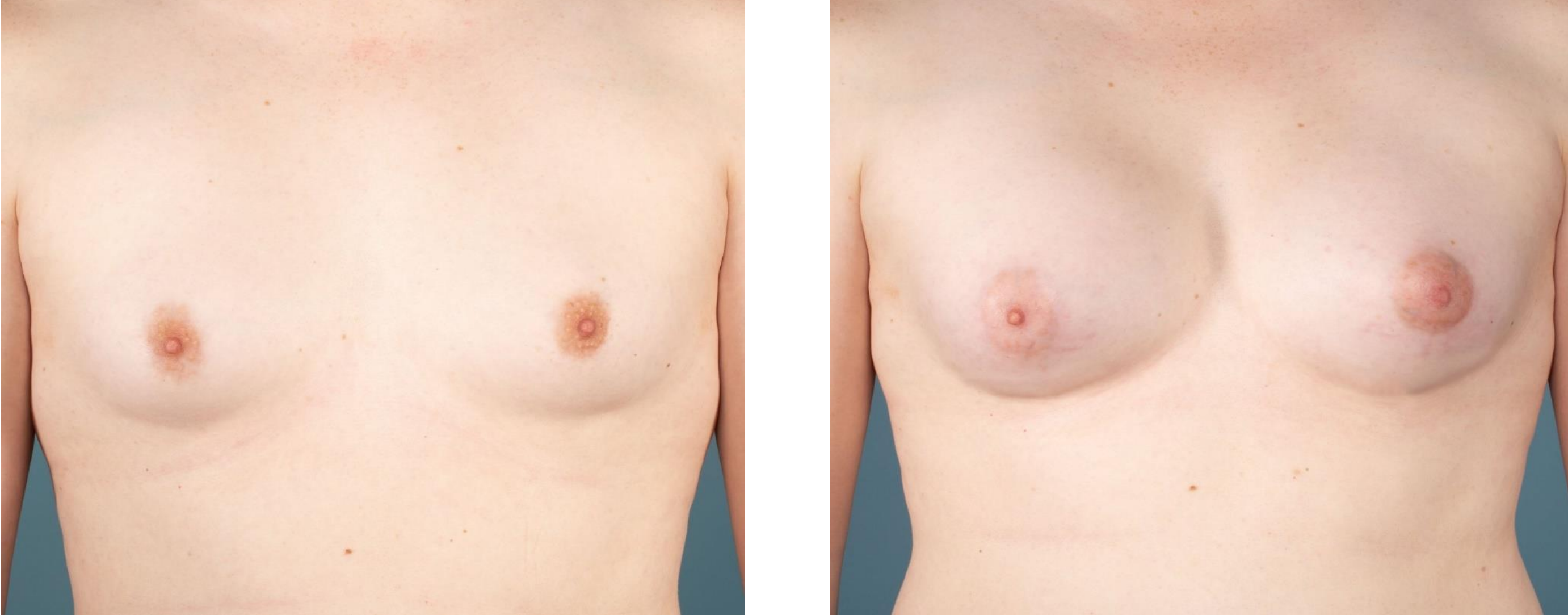
		Whole Group (n=271)	Transgender Subgroup (n=74)	Non-Transgender Respondents (n=193)	Mean Difference between Transgender and Non- Transgender Scores (p-value)
Average femininity score (1 = very feminine; 5 = very masculine)	Female controls (n=21)	2.705 +/- 1.350	3.092 +/- 1.256	2.570 +/- 1.358	0.521 (<0.0001)
	Male controls (n=17)	3.797 +/- 1.108	3.603 +/- 1.084	3.856 +/- 1.116	-0.253 (0.0008)
	Preoperative transgender patients (n=20)	3.422 +/- 1.209	3.505 +/- 1.142	3.380 +/- 1.237	0.125 (0.082)
	Postoperative transgender patients (n=20)	2.944 +/- 1.277	3.274 +/- 1.203	2.818 +/- 1.285	0.455 (<0.0001)

Figure 1: Control



Exemplary images of the cisgender male (left) and cisgender female (right) control patients. The patients were photoshopped in the same format as the transgender patients.

Figure 2: Experiment



Exemplary images of our transgender patient images, pre-surgical augmentation (left) and post-surgical augmentation (right). Images were taken of the patients in neutral repose and photoshop was utilized to remove evidence of scars, tattoos, body hair, clavicles, and piercings.

Discussion/Conclusion

- This study objectively shows that hormone therapy alone increases the perceived chest femininity of transgender patients as compared to cisgender male controls.
- Furthermore, our study found that breast augmentation significantly increased the perception of chest femininity in transgender patients to nearly the same level of cisgender female patients.
- Transgender survey respondents found no significant different in femininity between cisgender female chests and post-operative transgender patient chests.
- Incorporation of these findings will help patients determine their medical care based on their desired level of perceived femininity, helping reduce stress and financial burden.
- This study effectively demonstrates the use of surgical images and lay person analysis as a means to ascribe objective measures to subjective outcomes.