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Article

Psychological Correlates after Gender-Affirming Mastectomy: Insights from a Case Report and Review of the Literature

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Abstract

Gender dysphoria stems from incongruence between gender identity and assigned sex, often causing significant distress related to breast anatomy in transmasculine individuals. Gender-affirming hormone therapy typically precedes mastectomy, which is a fundamental intervention in transgender healthcare. Surgical challenges arise in patients with large breasts on lean frames, requiring customized techniques to achieve a natural, proportional, androgynous chest. This case report describes a 23-year-old transmasculine patient with macromastia and a tall, lean build who underwent gender-affirming mastectomy with free nipple grafts and muscular sculpture aimed at an androgynous aesthetic. Pre- and postoperative evaluations showed marked improvements in body image, physical strength performance, and emotional well-being. Over 12 months after surgery, psychological assessments revealed significant reductions in body uneasiness and gender dysphoria, while human figure drawings demonstrated increasing bodily integration and identity congruence. The narrative literature review supports these outcomes, highlighting satisfaction rates above 90%, minimal regret, and consistent gains in psychosocial functioning, sexual and mental health, including reduced anxiety and depression. Validated patient-reported outcome measures enhance the assessment of transgender-specific outcomes. Long-term follow-ups confirm sustained psychological benefits. This evidence reinforces that gender-affirming mastectomy is medically necessary, particularly when tailored to individual anatomical and aesthetic needs, affirming identity and alleviating distress.

Keywords: gender incongruence; gender dysphoria; mastectomy; top surgery; muscular sculpture; body image; self-perception; GAHT; physical performance; psychometric test

1. Introduction

Gender dysphoria is characterized by the clinically significant distress that stems from an incongruence between an individual's experienced gender identity and their sex assigned at birth [1]. This condition is estimated to affect 0.5% of the global population, which translates to approximately 25 million people. For a significant number of transmasculine and gender-diverse individuals, the

presence of breasts serves as a primary source of this dysphoria, leading to considerable social, physical, and psychological difficulties [2]. This profound distress frequently leads to compensatory behaviors, most notably chest binding, to conceal the female-like thoracic contour. Although this practice can offer temporary psychological comfort, it is often linked to adverse physical effects, such as skin rashes, acne, limitations on physical activity, and in some cases, respiratory issues [3]. Moreover, the long-term use of binders can have a detrimental effect on skin elasticity and cause stromal fibrosis, which not only complicates future surgical procedures but can also negatively affect the final aesthetic results [4]. As a precursor to surgery, gender-affirming hormone therapy (GAHT) is frequently the initial medical step, inducing desired physical transformations and enhancing quality of life (QoL), thus preparing the individual for the definitive step of chest affirmation surgery [2,5].

In this context, gender-affirming mastectomy, commonly known as "top surgery," stands as a fundamental component of transgender healthcare. For many transmasculine individuals, it is the first, and occasionally the only, surgical intervention they seek, underscoring its pivotal role in their affirmation journey.

While the overall effectiveness of chest masculinization is widely recognized, there is a gap in the literature concerning technical adjustments for patients with unique anatomical features or aesthetic preferences that differ from a conventional masculine chest. A notable surgical challenge is the management of large breast volumes on lean body frames, where achieving a natural and proportional contour demands precise planning to prevent an unnatural look [6].

This study aims to provide a comprehensive review of the current literature profound psychological impact of gender-affirming mastectomy. Furthermore, we present a novel case report detailing the successful achievement of an androgynous aesthetic in a tall, lean patient with significant breast volume, offering a contribution to the field's growing need for individualized surgical strategies with psychological investigation of the patient before and after surgery.

2. Methods

We present a case of a 23-year-old transgender man, assigned female at birth (AFAB), undergoing GAHT and gender-affirming surgery with particular emphasis on the psychological impact of bilateral mastectomy.

Secondarily, a comprehensive review of the literature on this specific issue was conducted examining publications from January 2000 through June 2025 using PubMed, the Cochrane Library, and the Web of Science database. Specific keywords used in the search were: "transgender men", "transgender male", "female-to-male", "FTM", "assigned female at birth", "gender-diverse individuals", "gender incongruence", "gender dysphoria". These keywords were paired with keywords related to surgery procedure and psychological impact: "gender-affirming surgery", "top surgery", "mastectomy", "chest masculinization surgery", "bilateral mastectomy", "gender-confirming surgery", "psychological well-being", "mental health", "body image", "quality of life", "depression", "anxiety", "self-esteem", "emotional outcomes", "psychosocial impact".

Two independent reviewers (G.S., M.C.Z.) screened the titles and abstracts of all selected articles. No specific inclusion or exclusion criteria were initially applied at the study design. The full texts of the selected articles were revised, and incongruities were resolved by a third author (A.A.) to confirm consistency in study selection. Citation tracking was also performed on the bibliographies of articles selected for review, which identified additional relevant literature. Studies were selected based on rigorous inclusion criteria to ensure high-quality evidence. We included only those publications that provided detailed surgical outcome reporting and psychological outcome measurements using validated assessment tools. Special attention was given to studies that included patients with varied body habits and breast volumes, as these factors significantly influence surgical planning and outcomes. The main thematic areas of interest were identified, and data were summarized and discussed for each specific area. Data were analyzed qualitatively and presented in a narrative and structured fashion. No attempt to perform a quantitative analysis was made.

3. Case Report

A 23-year-old transgender male patient, AFAB, first presented to the Gender Incongruence Outpatient Clinic at the “Renato Dulbecco” University Hospital of Catanzaro for evaluation related to gender dysphoria. The patient reported a longstanding incongruence between his assigned sex at birth and his experienced gender identity, which had been a source of significant psychological distress since adolescence.

At the time of the initial assessment (T₀), the patient reported a stable psychosocial background and denied any significant medical or psychiatric history. Developmental milestones were achieved appropriately, and psychomotor development was reported as within normal limits. He reported regular menstrual cycles and no use of hormonal treatments prior to presentation.

On physical examination, the patient was found to be overweight, with a body mass index (BMI) of 28.1 kg/m² (weight: 89 kg; height: 178 cm). No abnormalities were noted on systemic examination.

Following a comprehensive evaluation conducted by the multidisciplinary team, a diagnosis of gender incongruence was established by our trained psychiatrist (C.S.G.) in accordance with the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria [1]. The patient met the diagnostic threshold due to the presence of a strong and persistent identification with the male gender, a marked discomfort with secondary sex characteristics, and a desire for gender-affirming medical and surgical interventions.

During clinical interviews, the patient expressed a clear and consistent desire to undergo hormone therapy and gender-affirming chest surgery (bilateral mastectomy), which he perceived as crucial for aligning his physical appearance with his gender identity and alleviating gender-related distress. The request for these interventions was interpreted not as symptomatic behavior, but rather as an expression of personal agency and self-determination, reflecting the patient's active role in the affirmation of his gender identity.

The patient also reported symptoms consistent with moderate depressive episodes in the past. Importantly, these symptoms were attributed not to the transgender identity itself, but to the distress stemming from the incongruence between gender identity and physical embodiment. This distinction is essential in avoiding the medicalization of transgender identities and framing the psychological distress within a context of lived incongruence. In this context, the role of the mental health professional extended beyond diagnostic assessment, encompassing a supportive function throughout the patient's journey. Psychological support was conceived as a space for reflection, identity integration, and empowerment, reinforcing the therapeutic alliance in the broader framework of gender affirmation.

2.1. Endocrinological Management

A tailored treatment plan was established, beginning with GAHT. Informed consent was obtained for all procedures, and the patient demonstrated full understanding of the risks, benefits, and expected outcomes.

As part of the comprehensive care plan, the patient was advised to follow a hypocaloric Mediterranean diet combined with regular physical activity, to optimize metabolic parameters and support overall well-being during medical transition. Testosterone therapy was initiated and monitored closely, according to previously published data [5]. Treatment regimens were adjusted based on serum total testosterone levels and hematocrit trends, in accordance with international guidelines [7]. During the first six months, the patient received 250 mg testosterone intramuscularly every 3 weeks. In the following three months, the interval was extended to every 4 weeks. Subsequently, therapy was transitioned to testosterone undecanoate 1000 mg intramuscularly every 12 weeks, which was better tolerated and more convenient for long-term maintenance.

Throughout this period, the patient experienced progressive masculinizing changes, including voice deepening, increased muscle mass, and cessation of menses. Regular follow-up visits allowed

for the evaluation of clinical response and laboratory monitoring, with no significant adverse effects reported.

2.2. Surgical Procedures

After two years of hormonal therapy, the patient (age 25) underwent chest masculinization surgery with a specific desire for androgynous aesthetic results. At the time of surgery, he presented a height of 178 cm and weight of 65 kg (BMI 20.5 kg/m²). The patient displayed a characteristically tall, lean frame that required special consideration in surgical planning. The preoperative assessment revealed bilateral breast tissue measuring 400 ml each (cup size 5C), presenting a significant volume requiring careful management to achieve the desired outcome (Figure 1).

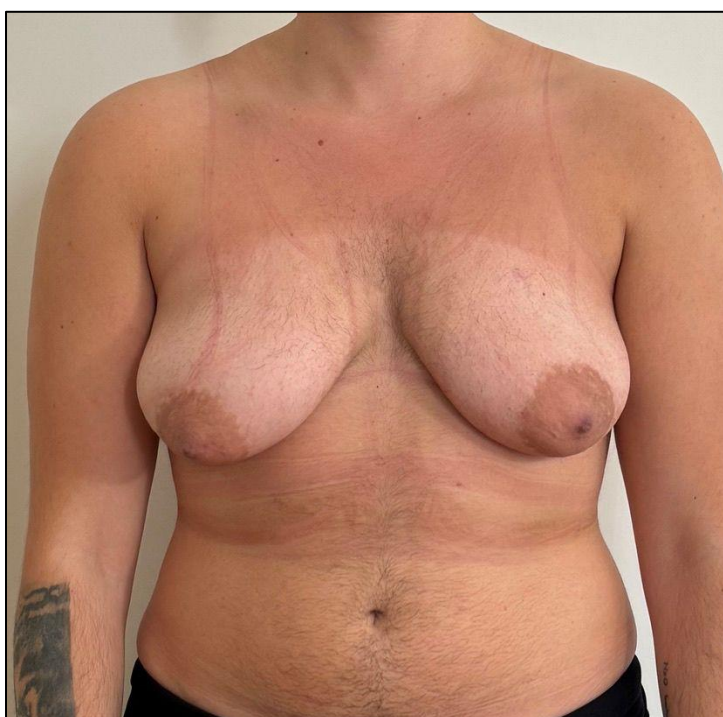


Figure 1. Preoperative anterior view of patient (height 178 cm, weight 65 kg) showing bilateral breast tissue of 400 ml each (bra size 5C). Note the symmetrical breast distribution and good skin elasticity, characteristics that influenced surgical planning and technique selection.

Initial physical examination demonstrated several favorable factors for surgery. The patient's breast tissue was symmetrically distributed with good skin elasticity, and notably, there was no significant ptosis despite the considerable breast volume. The tall, lean frame provided good overall proportions that would facilitate achieving natural-appearing chest contours.

The surgical technique chosen involved radical mastectomy with free nipple grafting, rather than nipple-areola complex preservation on a pedicle. This decision was made based on the significant breast volume (400 ml bilateral) and the desire to achieve optimal chest wall contouring. The nipples were harvested, trimmed to appropriate size, and grafted in anatomically optimal positions determined by preoperative marking and intraoperative assessment (Figure 2). Preoperative markings were carefully designed and documented (Figure 2), with specific attention to the patient's unique anatomical characteristics.

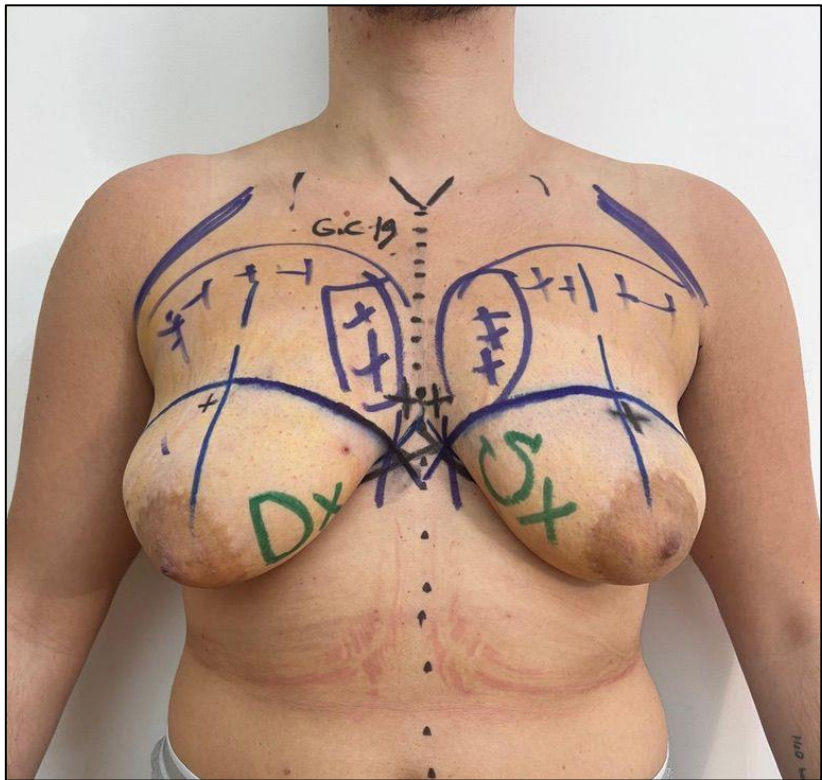


Figure 2. Preoperative surgical markings showing planned incision lines for radical mastectomy with free nipple grafts and muscular sculpture. The marking pattern was specifically adapted to the patient's tall, lean frame to ensure optimal chest wall contouring and final proportions. Note the strategic placement of incisions designed to achieve the desired androgynous aesthetic outcome.

The surgical procedure involved complete bilateral tissue removal of the 400 ml breast volume. Meticulous attention was paid to chest wall contouring, with the final aesthetic refinements carefully adapted to the patient's unique frame. The free nipple grafts were positioned to create a natural-appearing, androgynous chest aesthetic that harmonized with the patient's overall body proportions. Additionally, muscular sculpture (MS) of the chest was performed to improve the virilization of the patient according to our previous procedures [8].

The postoperative course proved remarkably successful, with excellent aesthetic outcomes achieved at one-month and 12 months follow-up (Figure 3). The final chest wall contour demonstrated natural proportions that complemented the patient's height and frame, with no complications encountered throughout the recovery period. The free nipple grafts healed completely with good retention of color and position.



(a) (b)

Figure 3. (a) One-month and (b) 12 months postoperative result showing well-healed bilateral incision lines with excellent symmetry. Note the natural chest wall contour achieved, proportionate to the patient's frame, with appropriate nipple positioning and size contributing to the desired androgynous aesthetic outcome. The result demonstrates successful integration of aesthetic principles with patient-specific anatomical considerations.

2.3. Physical Performance Assessment

Physical performance evaluation was conducted before undergoing GAHT (T₀), one week before surgery (two years after the start of GAHT) (T₁) and 6 months post-surgery (T₂). The following tests were administered:

- The Handgrip strength (HG) test was performed on the dominant upper limb to evaluate the maximum isometric strength of the hand and forearm muscles using a Jamar hydraulic hand dynamometer [9]. The participant was instructed to contract as hard as possible for three seconds maintaining the elbow at right angles. Three trials were performed, and the best one was considered for the result.
- 30-second chair stand test (30-CST) was used to evaluate lower limb muscular performance [10]. The participant was asked to stand up and sit down as many consecutive times as possible. The number of times (i.e., repetitions) the patient comes to a full standing position in 30 seconds was recorded.
- The one-repetition maximum (1RM) bench press protocol was used to assess dynamic muscle strength [11]. The protocol used included the estimated 1RM bench press, calculated as the maximum weight lifted by applying Brzycki formula [12].

Results are summarized in Table 1.

Table 1. Results of physical tests during patient's follow-up. Unit of measure are reported in brackets.

Test	T ₀	T ₁	T ₂
HG (kg)	29	32	34
30-CST (repetitions)	16	18	17
1RM (kg)	35,0	56,6	50,0

Legend. 1RM, one-repetition maximum; 30-CST, 30-second chair stand test; HG, Handgrip strength test; T₀: before testosterone therapy; T₁: two years after the start of testosterone therapy (one week before surgery); T₂: 6 months after surgery.

HG showed progressive improvement across all time points. Lower limb performance, measured via the 30-CST, improved from T₀ to T₁, with a slight decrease at T₂. Dynamic upper body strength, assessed using the estimated 1 RM bench press, increased significantly from 35.0 kg at T₀ to 56.6 kg at T₁, followed by a moderate reduction to 50.0 kg at T₂.

These results suggest a general improvement in physical performance over time, particularly in upper body strength, with minor fluctuations potentially related to the surgical intervention and recovery phase.

2.4. Psychological and Neuropsychological Assessment

Psychological and neuropsychological assessments were conducted one week before surgery (T₁), 6 months (T₂) and 12 months after surgery (T₃), using a multimethod approach combining psychometric and projective tools, aimed at capturing the complexity of body image integration and self-perception after gender-affirming mastectomy.

The following standardized instruments were administered:

- The Body Uneasiness Test (BUT) to quantitatively assess body-related distress, dysmorphic concerns, and discomfort with specific body areas. This allowed for the measurement of

- somatoperceptive dysregulation commonly reported in transgender individuals undergoing transition [13].
- The Marlowe-Crowne Social Desirability Scale (MC-SDS) (33-item version) to evaluate the tendency to respond in a socially acceptable or idealized manner. This tool served as a control variable for the interpretation of self-reported emotional and body-related responses [14].
 - The Human Figure Drawing Test (DFH), administered in two consecutive tasks: the first involved drawing a human figure freely, and the second invited the patient to draw a self-representation as perceived six months after the surgical intervention. This projective technique was used to explore implicit aspects of the embodied self, emotional resonance with physical transformation, and the subjective integration of the new body image [15]. Drawings were analyzed through a clinical projective framework, focusing on structural organization, body part salience, graphical consistency, and implicit gender identity cues. The approach enabled an in-depth exploration of pre-verbal dimensions of self-perception and bodily integration across time. Differences between the first and second figure provided insight into the degree of internalized bodily congruence, visibility of identity markers, and affective embodiment post-surgery. Although the DFH is not classified among standardized psychometric tools within evidence-based diagnostic systems, its inclusion in the present study is methodologically justified by the exploratory and integrative design adopted (Appendix A).

The assessment was embedded within a therapeutic relationship oriented toward affective regulation, gender identity consolidation, and the reconstruction of a coherent self-narrative following medical transition.

Results of standardized tests are summarized in Table 2 and discussed below. Drawings of DFH are shown in Figure S1.

Table 2. Results of psychometric tests during patient’s follow-up.

Test	T ₁	T ₂	T ₃
BUT	143	124	17
MC-SDS	13	18	20

Legend. BUT: Body Uneasiness Test; MC-SDS: Marlowe-Crowne Social Desirability Scale; T₁: one week before surgery; T₂: 6 months after surgery; T₃: 12 months after surgery.

2.4.1. Body Uneasiness Test (BUT)

The extremely high score at T₁ indicates severe generalized body discomfort, consistent with experiences of gender dysphoria, body shame, and somatic rejection. Social avoidance, dysmorphic ideation, and significant distress related to the chest area (breasts) are likely present. The significant reduction (from 143 to 124) at T₂ indicates initial improvement, though levels of discomfort remain high. It is plausible that the body is undergoing a process of re-elaboration, with a male identity beginning to emerge but not yet fully stabilized. Finally, at T₃ (12 months post-surgery), the score drops dramatically to 17, falling within a range of psychophysical well-being. This value suggests an almost complete resolution of body discomfort, with acceptance, recognition, and integration of the post-transition male body. It is a strong indicator of identity coherence between internal self-image and physical form.

The trajectory of the scores highlights a complete transformative process, where thoracic surgery has triggered a positive reconstruction of body image. This finding is fully consistent with what was observed in the DFH and the clinical narrative. The BUT documents a clear evolution from dysphoric distress to bodily and psychological well-being, reinforcing the clinical effectiveness of gender-affirming mastectomy in improving self-image.

2.4.2. Marlowe-Crowne Social Desirability Scale (MC-SDS)

The slight but consistent increase in scores may reflect social adaptation mechanisms and identity defenses activated within the context of transition. It is important to consider that, despite a body that is now integrated (as shown by the BUT), the regulation of social image remains active—perhaps as a residue of previous vulnerability or as a result of exposure to internalized masculine norms. The MC-SDS reveals a growing tendency to control how one is perceived by others, which does not negate the well-being achieved but calls for clinical monitoring of deeper relational and identity dimensions, even in the post-transition phase.

The increase to 18 at T₂ suggests greater social desirability, likely linked to the need for external validation during the transition phase. At this stage, the need to be recognized in the new gender role and the pressure to conform to socially accepted models of masculinity may intensify. The score of 20 at T₃, while still within the normal range, indicates a persistent inclination toward social approval. However, it does not appear pathological. At this stage, the individual may manage their responses with greater control, perhaps to maintain a coherent image of a 'successful man' after the transition. This should be interpreted alongside the marked improvement shown in the BUT.

2.4.3. Human Figure Drawing Test (DFH)

At T₁, the drawing illustrated prominently shaded breasts, thick and disproportionate lower limbs, and arms with repeated outlines (Figure S1). The figure was faceless, with undefined hands and no visible genitalia. The image evoked a fragmented and dysphoric body perception, with overemphasis on the chest suggesting an intrusive and alien bodily region. The lack of facial detail implied a dissociation from identity, and the body's mass appeared to carry a weight of incongruence.

Six months after surgery (T₂), the second figure reflected a flatter chest, narrower waist, and more athletic limbs (Figure S1). Shoulders were broader, and the musculature was lightly indicated. While the face was again absent, the entire body showed greater balance and cohesion. The drawing exhibited cleaner contours and symmetrical posture. Compared to the first, there was a significant reduction in dysphoric traits and a shift toward masculine embodiment.

Finally, at T₃, drawing presented flat chest, muscular limbs and stable stance (Figure S1). Although the face remained unexpressed, the overall composition communicated a stable and integrated male identity. This drawing no longer showed signs of internal conflict or dissonance, and instead reflected a quiet ownership of the body, consistent with psychological and physical affirmation.

The progression across the three figures demonstrates a symbolic narrative of transformation: from dysphoria, dis-identification, and fragmentation (T₁), to emerging congruence and structure (T₂), to internalized masculine embodiment and self-coherence (T₃). This trajectory reflects the psychological adaptation measured through the BUT.

4. Review of the Literature

The therapeutic effectiveness of gender-affirming mastectomy is well-established, supported by a strong body of evidence that shows high safety profiles and exceptionally high patient satisfaction. Data from systematic reviews and large-scale studies consistently indicate satisfaction rates above 90%. For instance, a comprehensive review involving 1,324 patients reported an overall satisfaction rate of 96.8% [16]. Similarly, a recent Brazilian study documented a marked increase in satisfaction with both chest and nipple appearance following the surgery [17]. This widespread satisfaction is further supported by the extremely low incidence of surgical regret reported in the literature [16,18].

This becomes especially critical when a patient desires an androgynous aesthetic, compelling the surgeon to adopt a more nuanced, artistic, and patient-guided strategy that transcends standard binary anatomical models. This shift in patient objectives signifies a new frontier in gender-affirming surgery, requiring advanced surgical planning and execution to address established risks, like hematoma, while delivering highly customized outcomes [19].

The significant psychological advantages of this surgery have been rigorously measured using validated patient-reported outcome measures (PROMs). A pivotal prospective study employed the

BREAST-Q and the BUT, revealing statistically significant improvements after surgery in several key-areas [20]. These included satisfaction with breasts, psychosocial well-being and sexual well-being, in addition to a substantial decrease in overall body-related distress [20].

A prospective study evaluated 21 trans men preoperatively and at 4 and 12 months postoperatively [21]. BREAST-Q and Body Exposure during Sexual Activities Questionnaire were used to assess the potential improvement in body awareness during sexual intercourse. Results showed significant improvements in psychological well-being, chest satisfaction, and body awareness during sexual intercourse as early as 4 months after surgery [21]. Interestingly, nipple-areolar complex sensitivity recovery, evaluated though the Semmes-Weinstein monofilament, did not correlate with improvements in sexual well-being [21].

Another prospective study on 111 transmasculine and non-binary adults used validated PROMs including BREAST-Q, BODY-Q, Body Image Quality of Life Inventory (BIQLI), Transgender Congruence Scale, Patient Health Questionnaire (PHQ)-9, and General Anxiety Disorder-7 (GAD-7) [22]. The results showed significant post-mastectomy psychological benefits, such as notable improvements in psychosocial and sexual well-being, increased gender congruence, and substantial reductions in depression and anxiety) [22]. Although hypertrophic scarring was relatively common, overall patient satisfaction remained high, underscoring the therapeutic effectiveness of the procedure in improving mental health and quality of life in transgender and non-binary individuals [22].

Similarly, a prospective cohort study conducted in the USA evaluated 70 transmasculine individuals both preoperatively and six months postoperatively [23]. The analysis demonstrated statistically significant improvements in depressive symptoms and anxiety symptoms. Additionally, notable enhancements were observed in psychosocial functioning, sexual functioning and overall body image [23]. The mean patient satisfaction rate regarding surgical outcomes was 93.1%. Collectively, these findings underscore the therapeutic benefit of chest surgery in this population, highlighting its positive effects on mental health that transcend solely physical appearance [23].

These results are corroborated by recent meta-analyses, which affirm that gender-affirming surgeries yield significant and lasting enhancements in mental health and overall quality of life [24]. The consistent reporting of such positive results across various patient groups, surgical methods, and evaluation tools reinforces the classification of this procedure as a medically necessary intervention, not merely an elective one [17,25].

The same positive outcomes appear to be confirmed in younger transmasculine populations. A recent single-institution longitudinal study conducted in USA evaluated the impact of gender-affirming care, including top surgery, on mental health and treatment outcomes in transmasculine and nonbinary adolescents and young adults [26]. Outcomes were measured using the PHQ-2, chest and gender dysphoria scales, and surgical satisfaction scales. Results showed significant reductions in depressive symptoms and dysphoria following surgery [26]. Participants reported high satisfaction with surgical outcomes and recovery, often contributing to suicidal ideation. Another qualitative study evaluated 30 transmasculine individuals aged 13–21; nearly half had undergone masculinizing chest surgery [27]. Participants described severe psychological and physical burdens related to chest dysphoria, which were not alleviated by testosterone alone. Those who received mastectomy reported near-complete resolution of dysphoria, no regret, and marked improvements in quality of life and functioning [27].

The growing sophistication of this field is evident in the evolution of outcome assessment methods. Initial evaluations relied on generic quality of life instruments, like the Short-Form Health Survey (SF-36), or adapted body-part-specific tools such as the BREAST-Q and BODY-Q [19,25,28]. More recently, the focus has shifted to highly specialized, transgender-specific questionnaires. Although early research using these adapted instruments was vital for establishing initial evidence, it was constrained by language and concepts not specifically designed for the transgender population, such as questions regarding bra fit [29]. A significant step forward has been the creation of validated tools like the TRANS-Q and the Essen Transidentity Quality of Life Inventory (ETLI)

[29–31]. These instruments are tailored to capture the unique aspects of the transgender experience, evaluating areas like gender congruence, satisfaction with appearance both clothed and unclothed, and the effects of living openly as a transgender individual. This advancement in methodology marks a shift towards a more patient-centric approach to care, aiming to validate and quantify the outcomes that are most meaningful to the lived realities of transgender people [25,29].

Long-term data on gender-affirming mastectomy remain limited, particularly for trans men. In a follow-up study of patients treated between 1970 and 1990, transmasculine participants reported sustained improvements in body congruence, especially in relation to chest [32]. Mental health outcomes also improved, with reduced suicidal ideation and resolution of gender dysphoria-related comorbidities. No regrets were reported, suggesting durable benefits in trans men over decades [32].

5. Discussion

Gender dysphoria is increasingly understood as an embodied form of distress rather than a purely cognitive mismatch between assigned and self-identified gender. Neuropsychological models highlight dysregulation in the interoceptive-affective network - responsible for bodily self-awareness and emotional salience - as a key contributor [33,34]. In this context, interventions that realign the body with gender identity, such as gender-affirming surgery, may help re-establish affective and perceptual coherence [35,36].

Our clinical case supports this view. Through a longitudinal, multimodal assessment, we observed that the most psychologically transformative event was not the initiation of hormone therapy or physical performance changes, but the gender-affirming mastectomy. This surgical intervention catalyzed a symbolic and emotional realignment between body image and internal identity, leading to a more stable, integrated masculine self-perception. The surgery functioned not merely as a physical correction but as a therapeutic turning point.

Improvements in physical performance, especially upper body strength, contributed to gender congruence by reinforcing bodily control and authenticity. Though not perceived as transformative as surgery, these gains complemented the embodiment process, enhancing confidence and alignment with the internal body schema.

Body image and gender congruence evolved together as the patient integrated a physical form congruent with his affirmed gender. Literature supports this trajectory, showing that chest masculinization increases psychological well-being, reduces fear of misgendering, and facilitates social interactions [37].

In our case, careful surgical planning, attentive to both anatomical and aesthetic goals, supported this process. In particular, this case represents the first reported application of MS [8] in a transgender individual. Shared decision-making ensured alignment with identity aspirations and psychosocial expectations especially at one-year follow-up from surgery, probably due to highly satisfying pectoral MS. Research has consistently shown that satisfaction with chest reconstruction is closely linked to individualized aesthetic embodiments and the degree of perceived congruence between one's gender identity and bodily appearance [38].

From a psychological perspective, mastectomy not only relieved dysphoria but restructured the patient's relationship with his body [39]. Postoperative assessments showed marked improvements in body image and symbolic self-representation. The DFH evolved from fragmented to integrated, the BUT score improved significantly, and MC-SDS scores suggested a growing attention to social perception during identity consolidation. One-year post-surgery, the patient exhibited stable body image satisfaction and integrated gender identity. The combination of reduced dysphoric detachment, increased control over bodily presentation, and affective congruence revealed the deep impact of surgical embodiment. Thus, surgery represented the event with the greatest symbolic and perceptual impact, but it was embedded within a broader process of identity reconstruction, made possible by a therapeutic alliance and a coherent autobiographical narrative.

Finally, social desirability and aesthetic norms remain influential. Some patients may feel pressured to conform to binary ideals. In this case, tailored surgical outcomes aligned with the

patient's personal body map, supporting authenticity over conformity. Personalized approaches reduce internalized distress and support well-being. This finding may reflect a strengthening of identity and a desire to control one's public image, but it could also signal an adaptation to new normative masculine standards. It is important to monitor whether this tendency evolves toward authenticity or becomes a form of masking.

To better capture these dynamics, the integration of quantitative, projective, and relational tools is essential. Instruments such as the Transgender Congruence Scale or Gender Minority Stress and Resilience Measure may further enrich outcome evaluation. Overall, gender-affirming sculptured mastectomy should be recognized not only for its clinical efficacy but also for its identity-affirming potential within holistic care pathways

6. Conclusions

In conclusion, this case report highlights the central role of gender-affirming surgery, not merely as a physical intervention, but as a psychologically transformative process that facilitates the integration of gender identity, body image along with better muscular performances and self-perception. In the present case, while GAHT and functional changes contributed to the alignment process, it was the surgical intervention that marked the most profound shift in the patient's psychological trajectory. Through a multidimensional evaluation incorporating projective and quantitative tools, we demonstrated how chest masculinization, especially by applying the MS technique, can reduce interoceptive-affective dissonance and foster a stable, embodied masculine identity.

These findings support the view that surgical gender-affirming procedures, more than hormonal reassignment therapies, are essential components of transgender health care, with implications that extend beyond physical congruence to include affective coherence, self-recognition, and social integration.

Supplementary Materials: The following supporting information can be downloaded at the website of this paper posted on Preprints.org, Figure S1: Human Figure Drawings by the patient at three clinical time points: (a) Pre-surgery (T₁); (b) Six months post-surgery (T₂); (c) Twelve months post-surgery (T₃).

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Appendix A - Methodological Note on the Use of the Human Figure Drawing Test (DFH)

The DFH was not used for diagnostic purposes, but rather as a projective clinical tool aimed at capturing the symbolic, affective, and pre-reflective dimensions of body experience—dimensions particularly relevant in the context of gender transition.

Given the central role of subjective embodiment, body image transformation, and the narrative of the physical Self in gender dysphoria pathways, the DFH served as a clinical complement to validated tests such as the BUT and MC-SDS.

Its value lies in its ability to access layers of meaning and lived experience that are not always expressible through quantitative measures. Interpretation was conducted within a clinical-phenomenological framework, consistent with established approaches in qualitative health psychology and narrative medicine. Furthermore, the triangulation of data from the DFH, BUT, and MC-SDS enhanced the ecological validity of the findings, allowing for a multilayered understanding of identity integration over time.

The convergence of symbolic, perceptual, and relational data supports the internal coherence of the case and its clinical plausibility. The use of a symbolic tool is not only epistemologically consistent, but also clinically valuable for monitoring changes in body perception throughout the gender-affirmation process.

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