

# Successful Surgical Management of Grade 4 Gynecomastia in a Renal Transplant Recipient

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**Summary:** This case report details the clinical presentation, surgical intervention, and postoperative management of a 36-year-old male renal transplant recipient with grade 4 gynecomastia, classified by the Rohrich scale. The patient had hypertension and was on nifedipine, metoprolol, allopurinol, prednisol, tacrolimus, and mycophenolate. With a body mass index of 31 kg/m<sup>2</sup> and significant breast hypertrophy 4 months posttransplant, surgical intervention was chosen. The patient underwent bilateral breast tissue excision with free nipple grafting under general anesthesia. Postoperative management included overnight admission, and follow-up showed successful graft take and satisfactory wound healing. (*Plast Reconstr Surg Glob Open* 2024; 12:e6334; doi: [10.1097/GOX.0000000000006334](https://doi.org/10.1097/GOX.0000000000006334); Published online 21 November 2024.)

Gynecomastia, the benign enlargement of male breast tissue, poses aesthetic and psychological concerns. Its etiology includes hormonal imbalances and medication side effects. In renal transplant recipients, gynecomastia introduces unique challenges due to immunosuppressive regimens that affect hormone levels.<sup>1-3</sup> Renal transplantation, essential for patients with end-stage renal disease, is associated with postoperative complications, including gynecomastia, influenced by altered drug metabolism and body composition changes.<sup>1,4,5</sup>

The surgical management of gynecomastia in these patients requires balancing aesthetic outcomes and transplant health. This case report presents a 36-year-old man with grade 4 gynecomastia post renal transplantation, detailing the presentation, surgical management, and postoperative course, contributing insights to the plastic surgery literature on this specific population.

## CASE PRESENTATION

A 36-year-old man with hypertension and a recent renal transplant developed severe breast hypertrophy 4 months posttransplant. His medications included nifedipine, metoprolol, allopurinol, prednisol, tacrolimus, and mycophenolate. Physical examination revealed grade

4 gynecomastia (Rohrich classification) and a body mass index of 31 kg/m<sup>2</sup>. Due to the severity and his complex medical background, a multidisciplinary team planned his surgical management. [Figure 1](#) demonstrates the patient's status preoperatively and the extent of gynecomastia.

## SURGICAL PROCEDURE

The patient underwent bilateral breast tissue excision with free nipple grafting under general anesthesia, chosen for its effectiveness in severe gynecomastia and aesthetic outcomes. Two size 17 drains were placed to manage fluid accumulation, and bolster dressings and a pressure garment were applied to support healing and chest contour. [Figure 2](#) demonstrates an intraoperative picture of the extent of excision from the breasts.

## MEDICATION ADJUSTMENTS

To minimize surgical complications and maintain renal graft integrity, the patient's immunosuppressive medications were adjusted as follows:

- Prednisol: maintained at minimal levels to balance immunosuppression and wound healing.
- Tacrolimus: dosage closely monitored and adjusted to maintain therapeutic levels without increasing toxicity or rejection risk.
- Mycophenolate mofetil: slightly reduced the day before and on surgery day to reduce bleeding and infection risk, then gradually increased postoperatively.

These adjustments were made in consultation with the nephrologist and transplant team to ensure optimal management of the patient's transplant status and surgical recovery.

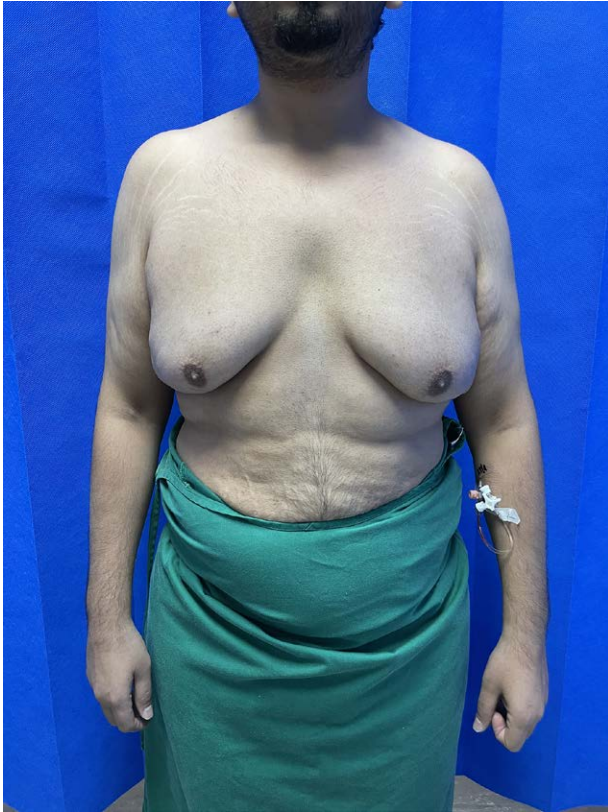
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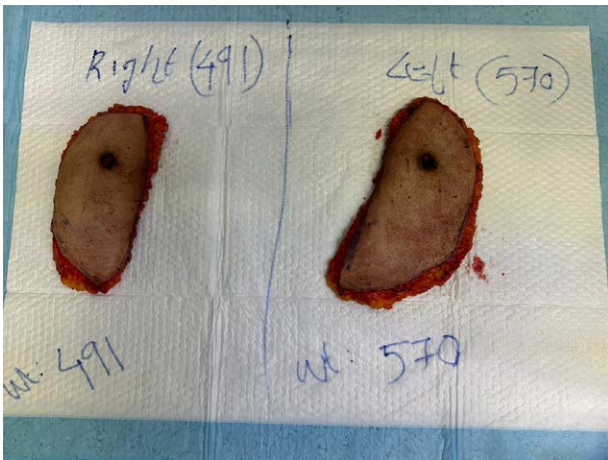
Disclosure statements are at the end of this article, following the correspondence information.



**Fig. 1.** The patient status preoperative demonstrating the extent of gynecomastia.



**Fig. 3.** The patient status postoperative demonstrating the resolution of gynecomastia and healing.



**Fig. 2.** Intraoperative picture of the extent of excision from the breasts.

### POSTOPERATIVE CARE

The patient was monitored overnight postsurgery due to his complex medical profile, and was discharged the next day with drains in place. At the follow-up on the fifth postoperative day, the dressings were intact, and the wounds were healing well, allowing for drain removal. By the seventh postoperative day, the primary dressing of the nipple graft was changed, revealing full graft take. [Figure 3](#)

demonstrates the patient status postoperative demonstrating the resolution of gynecomastia and healing.

### DISCUSSION

This case report describes a 36-year-old man with grade 4 gynecomastia post renal transplantation, successfully managed surgically. Gynecomastia in renal transplant recipients involves psychological and medical complexities, influenced by hormonal imbalances from immunosuppressive medications, body composition changes, and posttransplant renal function recovery.<sup>1,3,6</sup>

Surgical management of gynecomastia in renal transplant patients requires considering factors unique to this population. Immunosuppressive medications such as tacrolimus and prednisolone, essential for preventing organ rejection, can disrupt hormonal balance and cause breast tissue proliferation.<sup>1,3,7</sup>

The decision to forego preoperative weight loss in this renal transplant recipient highlights the complexities of managing such patients. Prioritizing transplant stability was crucial due to the risks of medication adjustments from significant weight changes. Rapid weight loss could alter immunosuppressive medication pharmacokinetics, risking graft rejection or toxicity. Addressing symptomatic gynecomastia urgently justified immediate surgical intervention without prior weight reduction. Evidence supports stable management of existing conditions in transplant recipients over preoperative weight

optimization, especially when immediate quality-of-life improvements are needed.<sup>1,3,7</sup>

The surgical technique used was bilateral breast tissue excision with free nipple grafting, chosen due to the severity of the grade 4 gynecomastia and the aim for functional and aesthetic outcomes. Free nipple grafting allows significant tissue removal while preserving nipple-areolar complex appearance, with some risk of sensation loss. The postoperative course showed minimal complications and successful graft take, highlighting the efficacy and safety of this strategy in carefully selected patients.

Immunosuppressive medications such as tacrolimus and prednisolone can contribute to gynecomastia in transplant recipients through complex pharmacodynamic and physiological responses. Tacrolimus may influence hormonal balance by affecting steroid metabolism and sex hormone levels.<sup>5</sup> Prednisolone can cause hormonal imbalances by affecting androgen and estrogen metabolism and inducing weight gain.<sup>6</sup> Although direct causality is not well-documented, these drugs can disrupt homeostasis in predisposed individuals. This case highlights the need for vigilance and routine screening for gynecomastia in patients on these medications, especially with additional risk factors such as obesity.

The literature on managing gynecomastia in renal transplant recipients is sparse. Our case shows that with proper preoperative evaluation and postoperative care, satisfactory outcomes can be achieved.

### CONCLUSIONS

Gynecomastia post renal transplant requires a comprehensive approach considering the patient's renal condition and immunosuppressive therapy. This case shows that surgical excision with free nipple grafting can be safe and effective, improving patient satisfaction and quality of life. Future research should explore long-term outcomes, optimize surgical techniques, and develop management guidelines for this population.

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### DISCLOSURES

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### PATIENT CONSENT

*The patient provided written consent for the use of his image.*

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