Perioperative nursing care speed up recover of a male patient after bilateral endoscopic mastectomy: a case report

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Background: Gynecomastia (GYN) is mainly caused by the benign proliferation of mammary glands and adipose tissue. Currently, up to 38% of adult males have GYN. GYN can be caused by systemic diseases, obesity, endocrine disorders (such as liver cirrhosis, which impairs estrogen inactivation), malignant tumors, and medications. Surgical intervention is required after 12 months pharmacological treatment of GYN was no response who have endocrine disorder, or due to psychological and physiological factors, young patients have a higher demand for surgical intervention. Recent advances in minimally invasive endoscopic surgery, with the advantage of rapid rehabilitation, have markedly improved the surgical management of GYN.

Case Description: In November 2021, we admitted a young patient with bilateral GYN whose problem began several years prior and for which he sought surgical intervention. After comprehensive evaluation and psychological consultation, he underwent surgical treatment. The present case report summarizes our experience in nursing this patient.

Conclusions: Perioperative nursing care is essential in the management of patients undergoing endoscopic surgical treatment for GYN. The nursing team must be knowledgeable about the procedure, assess and manage the patient's pain, monitor vital signs, prevent infections, and provide emotional support to the patient. With proper nursing care, patients can recover smoothly and quickly after endoscopic surgical treatment of GYN.

Keywords: Case report; surgical intervention; gynecomastia (GYN); endoscopic resection; postoperative wound care

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Introduction

We have a case of adolescent gynecomastia (GYN), which is defined as a benign glandular proliferation in the male breast and is derived from the Greek terms gynec (female) and mastos (breast). The condition may be unilateral or bilateral, acute or chronic, with or without tenderness on touch (mastalgia) (1). Currently, up to 38% of male adults have GYN (2). GYN is mainly divided into three categories: neonatal, adolescent, and elderly. Neonatal and adolescent GYN account for 64–75% of cases, while elderly GYN accounts for 25% of cases. GYN can be caused by systemic diseases, obesity, endocrine disorders (such as liver cirrhosis, which impairs estrogen inactivation), malignant tumors, and medications, and also idiopathic cause of GYN one

of the causes. After treating the underlying disease, GYN commonly lasts for more than 12 months (3).

Pharmacological intervention for some of the certain cases who have endocrine disorder, no response after 12 months, surgical intervention is needed if pharmacological intervention is not effective (4,5). Owing to psychological and physiological factors, young patients are more likely to demand surgical intervention as definitive treatment of GYN. Recent advances in minimally invasive endoscopic surgery have markedly improved the surgical management of GYN and have the advantage of permitting rapid rehabilitation (6-9). In November 2021, we admitted a young patient with bilateral GYN, whose problem began many years prior and for which the patient desired surgical intervention. After comprehensive evaluation and psychological consultation, he underwent surgical treatment. This case report summarizes our experience in nursing this patient. We present this case in accordance with the CARE reporting checklist (available at https://acr.amegroups.com/article/view/10.21037/acr-23-101/rc).

Case presentation

General information

A 27-year-old patient, unmarried male who had a history of bilateral GYN dating back many years. Height and weight were 178 cm and 68 kg, respectively [body mass index (BMI): 21.5 kg/m^2]. Bilateral ultrasound showed no abnormality in breast tissue and the axillary lymph nodes. Bilateral and symmetrical breast enlargement was found on inspection (*Figure 1*). No other positive physical sign detected. After admission, the diagnosis was made based on physical examination, breast ultrasound, breast magnetic resonance imaging, and other ancillary examinations [i.e., electrocardiograph (ECG), chest X-ray, and a complete endocrinological]. The patient had no abnormal past medical history. Laboratory results did not reveal any contraindication to surgery. All procedures performed in this study were in accordance with the ethical standards of the Ethics Committee of Xinhua Hospital Affiliated to Shanghai Jiaotong University School of Medicine (No. XHEC-D-2023-071) and with the Declaration of Helsinki (as revised in 2013). Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editorial office of this journal.

Treatment and outcome

During diagnostic workup and before confirmation of the treatment plan, patients may experience doubt and have a variety of worrisome thoughts, which may not be shared with their family and friends. In this case, giving psychological reassurance, explaining the various causes of the disease, and talking about our patient's concerns improved his preparation for surgery.

After skin preparation and general anesthesia, he underwent bilateral endoscopic subcutaneous gland resection in conjunction with liposuction. Glandular hyperplasia was observed in the central area of both breasts. We use traditional endoscopic methods to carry out mastectomy. Bilateral endoscopic resection of the subcutaneous glands and liposuction were performed. Bilateral axillary fossae were opened with a 3 cm-long incision (axillary incision) (*Figures 2,3*) to resect the subcutaneous adipose tissue. The glandular tissue behind the areola was also resected. To preserve the pectoralis major fascia, the glandular tissue was removed from the inside to the sternum, from the outside to the front edge of the latissimus dorsi, and from the bottom to the sixth rib. Next, a drainage tube was inserted on both sides of the lateral flap at the mid-axillary line. The incision was fully sutured, covered with a dressing, and wrapped with pressure. After the surgery, the patient was returned to the ward. His vital signs, water, and electrolyte status were monitored.

Postoperatively, day 1, the drainage and wound exudation

Highlight box

Key findings

- The nursing care plan for gynecomastia (GYN) should include patient education and follow-up care to ensure optimal outcomes.

What is known and what is new?

- Surgical intervention is commonly performed in male patients with GYN.
- Perioperative nursing care plays a crucial role in ensuring the safety and well-being of the patient during and after the surgery.

What are the implications, and what should change now?

- A comprehensive nursing care plan that includes preoperative preparation, intraoperative monitoring, and postoperative care is needed.
- This nursing care plan should be updated to reflect the importance of patient education and follow-up care in ensuring optimal outcomes.

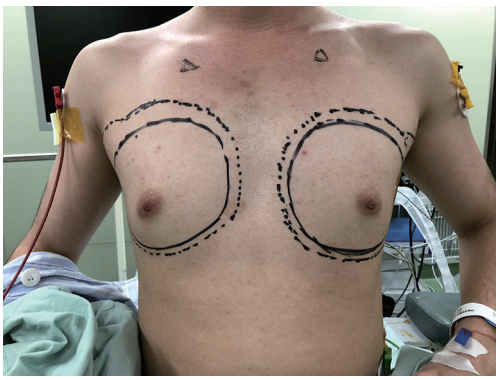

Figure 1 Patient bilateral and symmetrical breast enlargement was found on inspection.

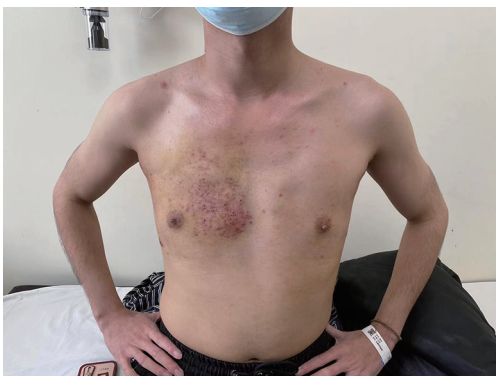

Figure 2 Postoperative status.

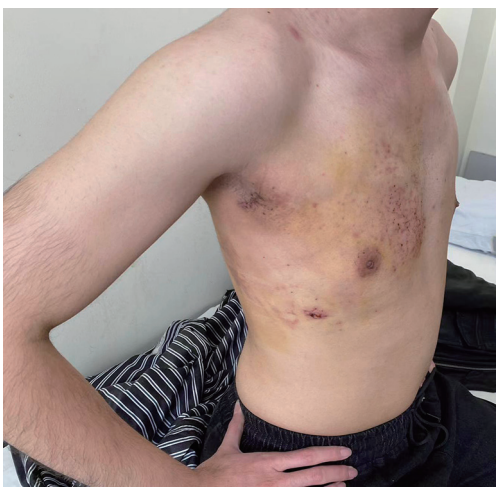

Figure 3 Postoperative status and axillary incision.

were closely observed. Day 2, less than 30 mL of pink liquid was drained 3 days after the operation; therefore, the tube was removed, and the wound was covered using a bandage. No signs of infection were found. Day 2, to promote a more rapid recovery after surgery, the patient was instructed to get out of bed and consume a semi-liquid diet. We reduced the amount of rehydration whilst maintaining the balance of water and electrolytes, rechecked the laboratory results, checked the laboratory markers of infection, and administered symptomatic treatment. Day 3, the drainage tube was removed 3 days after the operation. The wound was dry and clean and the patient's general condition was good. Recovery rapidly occurred after rehabilitation, and the patient was discharged 4 days after surgery (1).

Postoperative skin ulceration and subcutaneous congestion are common complications of GYN surgery (10). The chest bandage should be relaxed, the damaged area should be disinfected, and cleaned with normal saline (*Figure 2*). The blood clots slowly dissipate and the wound heals a few days after the operation.

Patient's Distress Management Screening Measure (DMSM) score was 4.3 and 4.6, preoperative and postoperative separately.

International multidisciplinary team (iMDT) discussion

Opinions from physicians from the hospital receiving the patient (comprehensive evaluation)

Unlike other non-gender-specific diseases, male GYN causes significant psychological distress in male patients. Simple hyperplasia of the mammary glands mostly occurs in young males. Patients often feel a sense of confusion, low self-confidence, and depression. They are unwilling to socialize, which seriously affects their life, work, and marriage. Therefore, the head nurse of the department along with their physician colleagues comprehensively assessed the psychological status of the patient. They used the DMSM as a reference for evaluation (11). The evaluation team included the attending physician, the charge nurse, the patient himself, and the patient's family. Laboratory results, physical examinations, psychological evaluations, and personal communication with patients can be used to determine the psychological and cognitive status

of patients and formulate a treatment and nursing plan.

Psychological consultation and negative correction

Patients' privacy must be respected during the psychological consultation. Patients usually talk about their disease with a degree of reluctance. When measuring the patients' information levels relating to the disease, only immediate family members must be allowed to accompany them. A private room or a room for patients with similar diseases should be allocated for such sessions, which may be helpful for mutual encouragement and collective support. In some cultures, it is preferable that female patients not be allowed to be present when talking with a male patient. Male physicians and nurses are recommended for such a patient from admission to discharge. The patient needs to be familiar with the ward and disease characteristics. The medical team should also carefully listen to the patient's demands and aim to create a comfortable environment for him.

Being well-informed can help ameliorate the negative psychological impact of the disease. The medical team should distribute breast disease-related knowledge and explain the significance of past medical records, diagnostic workups, and treatment plans. The physician should also explain the advantages of endoscopic surgery, particularly rapid recovery. Patients and their families can be invited for lectures or to watch videos of the surgical procedure. These measures can help the patients to fully understand the treatment plan and nursing, and cooperate with the department.

Surgical nursing and education

After admission, determining the patient's history, and blood sample collection, perioperative health education and preoperative evaluation of the patient's psychological status are pivotal. Furthermore, postoperative wound care, drainage flow monitoring, drainage tube nursing, and alleviation of patients' fear during the perioperative period are crucial for optimal care. The surgical trauma associated with this procedure is of similar magnitude to that of breast cancer surgery, and thus, similar to functional exercise after breast cancer surgery, postoperative rehabilitation is needed after GYN surgery. After learning the basic principles, rehabilitation and exercise methods should be modified for each patient (12). The specific instructions are as follows (10): (I) moving fingers and wrists: stretching fingers, wrist flexion, internal rotation, external rotation, and fist grip (by squeezing an elastic ball); (II) elbow flexion, forearm extension, and other movements 1 to 3 days after the surgery, then flexion and extension of the shoulder joint; (III) on the 4^{th} and 7^{th} days after surgery, patients are encouraged to use hand wheels, wash their faces, brush their teeth, eat, and touch their shoulders and ears. The above instructions are mainly based on our center's experience and the guideline of GYN (10). After wound healing, the shoulder's range of motion gradually increases. The upper limbs should not be overused on the day after surgery. The arm can be flexed 3 days after the surgery. Shoulder movement should be initiated after a few days and the patient should gradually move his shoulder. The patient should wash his face 1 week after the surgery, and should also swing his arm to place his elbow on his chest. Professional input and science-based training increase the early success rate.

Perioperative care for complications

As bilateral resection of GYN lasts longer than unilateral resection of GYN, complications are more common in bilateral resections (13). Most of these complications can be cured by simple treatment. Postoperative skin congestion is improved by using a compression bandage. After 2–3 days, the bandage can be relaxed if there are no signs of subcutaneous emphysema, hemorrhage, or edema. A wound dressing should be regularly replaced and the damaged skin should remain clean. Topical agents such as epidermal growth factor can be used to accelerate the healing process. Controlling bandage tightness is necessary for effective nursing. Rarely, the GYN patient has severe complication, further intensive care and rehabilitation needed after the operation to restore the original state of activity and strength.

Pros and cons of the endoscopic procedure compared to the traditional periareolar open technique

Endoscopic GYN surgery

Pros:

(I) Less invasive: the endoscopic procedure is less invasive as it requires smaller incisions, usually in less noticeable areas. This often results in less postoperative discomfort and faster recovery times;

(II) Better visualization: the use of an endoscope, which is essentially a small camera, allows the surgeon to see the surgical area in greater detail. This may result in a more precise removal of excess tissue and better cosmetic outcomes;

(III) Lower risk of visible scarring: because the incisions are smaller and usually hidden in less noticeable areas, there's often less visible scarring.

Cons:

(I) Requires specific equipment and skills: not all surgeons are trained in endoscopic techniques, and not all hospitals have the necessary equipment. This can limit access to the procedure;

(II) May not be suitable for all cases: more severe cases of GYN, especially those involving significant amounts of excess skin, might not be suitable for endoscopic surgery.

Open (periareolar) GYN surgery

Pros:

(I) Ideal for severe cases: the open technique can be more suitable for severe cases of GYN or those involving significant skin excess. The surgeon can remove a larger amount of glandular tissue and skin if needed;

(II) Direct visualization and access: the open technique allows for direct visualization and access to the surgical area, which can be advantageous in certain situations;

(III) Widely practiced: more surgeons are trained in this technique, making it more readily available.

Cons:

(I) More invasive: the open technique is more invasive, with larger incisions. This can lead to longer recovery times and more postoperative discomfort.

(II) Greater risk of visible scarring: the incisions are usually made around the areola, which can lead to more visible scarring.

The best technique will depend on the individual patient's circumstances, the surgeon's expertise, and the specifics of the GYN condition. Always consult with a qualified medical professional or surgeon before making decisions about surgical procedures.

Opinions from the international experts on questions related to diagnosis and treatment of this patient

(I) Is areola incision feasible for GYN minimally invasive surgery via endoscopic incision from the armpit compared with subaxillary endoscopy, and what are the possible hidden dangers?

No, not really, we use axillary incision for this case. About the areola incision, the length of areola incision is limited, limiting the scope of surgery (4). The posterior areola is prone to complications of ischemic necrosis (5). Most importantly, men's dermis is thick, and postoperative scar hyperplasia is obvious, affecting the appearance (14).

Expert opinion 1: Dr. Nicola Rocco

It is not clear where their incision is positioned: is it from the armpit or is it peri-areolar? If peri-areolar, what kind of device is used for endoscopic vision?

What about the vascularity of the nipple-areola complex? How long is the incision around the nipple (if a peri-areolar incision is considered)? Half the areola? In the superior half or lower half? What is the risk of NAC ischemia and necrosis? The risk of ischemia/necrosis from peri-areolar incisions is very high in mastectomy for breast cancer treatment (82%) (15).

Expert opinion 2: Dr. C. Andrew Salzberg

Yes, this periareolar incision is used commonly for resection with or without endoscopy.

(II) Due to the individual differences in aesthetics, some men will have aesthetic anxiety and insist on removing part of the breast to achieve perfection. How do surgeons or nurses make these types of decisions?

Yes, the contour and flatness of the chest wall should meet the acceptable male standards for each patient. But we will communicate fully with the patient and choose an ideal chest shape that the patient can accept with a composite universal aesthetic. And sure, we will refer to the three-talk model from Glyn Elwyn.

Expert opinion 1: Dr. Nicola Recco

It is extremely relevant to consider a shared decision-making approach, possibly according to the three-talk model from Glyn Elwyn (15,16).

Expert opinion 2: Dr. C. Andrew Salzberg

Yes, the chest wall should be contoured and flattened to male standards acceptable for each patient.

(III) Does the long-term follow-up of GYN patients need to be recorded?

We continue to follow up on these patients to understand the recent and long-term complications, as well as their psychological status. We will conduct some summary and analysis in the future. PROMs will be good tools to assess the patients following surgery for GYN.

Expert opinion 1: Dr. Nicola Recco

The long-term follow-up should be assessed in terms of aesthetic outcome and patient-reported outcomes assessed with standardized tools. Could tools developed

for mastectomy (i.e., BREAST-Q) be also used to assess patient-reported outcome measures (PROMs) following surgery for GYN? Given the strong impact of GYN on the psychology of young males, it is extremely relevant to assess PROMs in this group of patients, comparing preoperative quality of life to postoperative quality of life with a long-term follow-up.

Expert opinion 2: Dr. C. Andrew Salzberg

No, this is a routine surgery and long-term complications are extremely rare.

Conclusions

GYN can affect males over a broad age range with the incidence of GYN among adolescents and young men being as high as 38% (2). Indications for surgery include the following: (I) ineffective pharmacological management; (II) no shrinkage within 24 months; (III) the extent and type of surgery depend on the size of breast enlargement, and amount of adipose tissue (17); (IV) cosmetic reasons, and heavy psychological burden (need to verified further). As the psychological impact of GYN is significantly greater than its physiological impact, surgery and postoperative psychological support play an important role in the treatment of GYN. Minimally invasive endoscopic surgery has rapidly evolved in recent years and has arguably reduced the fear as well as the psychological and physical burdens on surgery. However, this type of surgery must be undertaken in conjunction with perioperative care and rehabilitation. Additionally, postoperative hospital stay has been shortened and psychological care has significantly accelerated postoperative recovery. Compared with 10 years ago, postoperative extubating time and hospital stay for GYN resection have been significantly reduced (18). Comprehensive evaluation, psychological counseling, and postoperative health education and rehabilitation have also effectively accelerated postoperative recovery.

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Footnote

Reporting Checklist: The authors have completed the CARE reporting checklist. Available at https://acr.amegroups.com/article/view/10.21037/acr-23-101/rc

Peer Review File: Available at https://acr.amegroups.com/article/view/10.21037/acr-23-101/prf

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at https://acr.amegroups.com/article/view/10.21037/acr-23-101/coif). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in this study were in accordance with the ethical standards of the Ethics Committee of Xinhua Hospital Affiliated to Shanghai Jiaotong University School of Medicine (No. XHEC-D-2023-071) and with the Declaration of Helsinki (as revised in 2013). Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editorial office of this journal.

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