



THE MASKED LOBULAR CARCINOMA: TRIPLE-POSITIVE INVASIVE LOBULAR CARCINOMA OF THE MALE BREAST WITH DISCORDANT CORE BIOPSY FINDINGS

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THE MASKED LOBULAR CARCINOMA: TRIPLE-POSITIVE INVASIVE LOBULAR CARCINOMA OF THE MALE BREAST WITH DISCORDANT CORE BIOPSY FINDINGS [ENGLISH]

SUMMARY

Objectives: Invasive lobular carcinoma (ILC) of the male breast is an exceedingly rare entity, accounting for less than 2% of all male breast malignancies. The diagnosis is often complicated by sampling error on core needle biopsy, where the infiltrative growth pattern of lobular carcinoma mimics the more common ductal phenotype. We present a clinically instructive case of triple-positive male ILC initially mischaracterized as ductal carcinoma on core biopsy.

Case Report: A 52-year-old male presented with a six-month history of a neglected left breast mass fixed to the chest wall (T4b cN1 M0). Initial core biopsy reported Invasive Breast Carcinoma of No Special Type (NST/Ductal), Grade 2, with a triple-positive receptor profile (ER+/PR+/HER2 3+). The patient received neoadjuvant TCH (Docetaxel, Carboplatin, Trastuzumab) with a partial radiologic response. Modified radical mastectomy was performed with removal of part of the involved pectoralis muscle. Final surgical pathology unmasked the true diagnosis: Invasive Lobular Carcinoma, classic type, confirmed by negative E-Cadherin staining. Margins were focally involved at the deep pectoralis plane (R1). The final stage was ypT3 ypN1a.

Conclusion: This case highlights a critical diagnostic pitfall in male breast cancer: a large, heterogeneous tumor may yield a ductal phenotype on limited core sampling while harboring a pure lobular histology. Given the distinct patterns of metastatic spread associated with ILC, surgical-pathological correlation is essential. Furthermore, the presence of a triple-positive lobular subtype in a male patient represents a rare intersection of aggressive biology and targeted therapeutic opportunity.

KEYWORDS

male breast cancer; invasive lobular carcinoma; her2 positive; diagnostic discordance; case report.

INTRODUCTION

Male breast cancer is an uncommon diagnosis, representing less than 1% of all breast cancer cases globally. Within this already rare cohort, Invasive Lobular Carcinoma (ILC) is exceptionally scarce, comprising only 1–2% of male breast malignancies. This scarcity is attributed to the vestigial nature of the male mammary lobules, which lack the terminal duct-lobular units typically implicated in lobular carcinogenesis [1].

While the standard diagnostic pathway relies on core needle biopsy for histologic subtyping, sampling error remains a significant concern in male patients. The diffuse, single-file infiltrative pattern of ILC can be obscured in a limited core specimen, leading to an initial misdiagnosis of Invasive Carcinoma of No Special Type (NST/Ductal) [2]. We report a case of a 52-year-old male with a locally advanced triple-positive breast cancer where the final surgical specimen revealed a pure lobular histology, contradicting the initial core biopsy findings. This case underscores the necessity of maintaining a high index of suspicion for lobular features in male breast tumors and the critical importance of final surgical pathology correlation.

CASE REPORT

A 52-year-old male manual laborer presented to the surgical outpatient department with a six-month history of a progressive left breast mass. The patient reported intentionally delaying medical consultation due to social stigma and the misconception that breast lumps are exclusive to women. Upon presentation, he described the mass as initially painless but recently becoming fixed to underlying muscle and ulcerating the overlying skin.

Clinical Examination

Physical examination revealed a hard, irregular mass occupying the medial half of the left breast, measuring approximately 8 cm in its largest dimension. The overlying skin was tethered and adherent, with ulceration; no *peau d'orange* was observed. The mass was immobile and fixed to the pectoralis major muscle on resisted adduction. (Fig. 1) Palpation of the left axilla revealed a discrete, firm, mobile lymph node measuring approximately 12 mm. The right breast and contralateral axilla were clinically unremarkable.



Figure 1 Findings from the patient's physical examination

Diagnostic Imaging

Magnetic Resonance Imaging (MRI) of the breasts demonstrated a lobulated enhancing mass on the left anterior chest wall measuring 80 × 61 × 43 mm. The lesion exhibited full-thickness involvement of the pectoralis major muscle with extension up to the intercostal space, although no intrathoracic extension was visualized. Overlying skin enhancement and thickening were noted. (Fig. 2) Left axillary tail adenopathy was present, with the largest node measuring 12 mm. The clinical-radiologic stage was determined to be T4b cN1 M0.

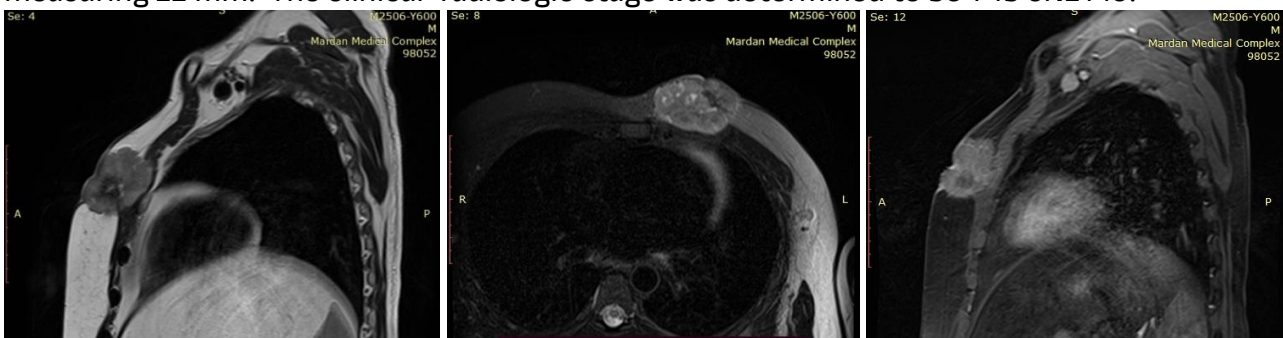


Figure 2 MRI showing a breast lobulated mass, involving the pectoral major muscle with extension up to the intercostal space

Pre-Treatment Pathology

An ultrasound-guided core needle biopsy (14-gauge, 4 cores) was performed. Histopathologic evaluation revealed an Invasive Breast Carcinoma of No Special Type (NST/Ductal), modified Bloom-Richardson Grade 2 (Tubule formation: 3, Nuclear pleomorphism: 2, Mitotic count: 1). Immunohistochemistry (IHC) demonstrated a triple-positive receptor status: Estrogen Receptor (ER) positive (>90%), Progesterone Receptor (PR) positive (>80%), and HER2/neu positive (3+ score). The Ki-67 proliferation index was 20%.

Genetics

The patient reported a negative family history for breast, ovarian, prostate, or pancreatic cancers in first- or second-degree relatives. Per National Comprehensive Cancer Network (NCCN) guidelines for male breast cancer, genetic counseling and BRCA1/2 testing were recommended. However, the patient declined testing due to financial constraints and lack of insurance coverage.

Neoadjuvant Treatment

The case was discussed at the institutional Multidisciplinary Tumor Board. Given the HER2-positive status and locally advanced chest wall fixation, a neoadjuvant systemic therapy approach was adopted. The patient completed six cycles of TCH (Docetaxel, Carboplatin, Trastuzumab) without significant cardiotoxicity. Post-chemotherapy imaging revealed a partial response, with a residual heterogeneous soft tissue density measuring 1.8 × 1.5 cm in the medial quadrant, accompanied by persistent skin and nipple-areolar complex infiltration.

Surgical Intervention

Following a standard hematologic recovery period, the patient underwent a Left Modified Radical Mastectomy (MRM) on 25th March 2026. Intraoperative findings confirmed a firm residual tumor bed densely adherent to the dermis and pectoralis major muscle fibers. A portion of the involved pectoralis major muscle was excised *en bloc* with the specimen to achieve local control. Level I/II axillary lymph node dissection was performed, yielding 12 lymph nodes.

Final Surgical Histopathology

The final surgical pathology report provided the diagnostic pivot of this case:

- **Tumor Type:** Invasive Lobular Carcinoma (ILC), Classic Type.
- **Discrepancy Note:** The initial diagnosis of NST on core biopsy was attributed to sampling error. The classic single-file infiltration and lack of tubule formation were evident on full specimen analysis.
- **Immunohistochemistry:** E-Cadherin was negative in tumor cells, confirming lobular histology. Cytokeratin (AE1/AE3) was positive.
- **Residual Tumor Size:** 66 mm (consistent with a large residual tumor bed).
- **Margins:** The deep (posterior) margin was **involved** by invasive carcinoma within skeletal muscle fibers (R1 resection). All other margins (skin, medial, lateral, superior, inferior) were free of tumor.
- **Nodal Status:** 1 out of 12 lymph nodes positive for macrometastasis (12 mm deposit) without extranodal extension.
- **Final Pathologic Stage (AJCC 8th Edition):** ypT3 ypN1a R1.

Post-Operative Management

Given the positive deep margin (R1) and aggressive biology, the Tumor Board recommended completion of 1 year of Trastuzumab, Post-Mastectomy Radiation Therapy (PMRT) with a chest wall boost to the involved margin site, and adjuvant Tamoxifen 20 mg daily for a planned duration of 5–10 years. A summary of the adjuvant plan is provided in **Table 1**.

Table 1: Patient's Adjuvant Treatment Roadmap

Modality	Recommendation	Rationale
Targeted Therapy	Complete 1 year of Trastuzumab	Standard of care for HER2+ disease; reduces recurrence risk.
Radiation	PMRT + Regional Nodal Irradiation	Indicated for ypT3 disease and R1 (positive deep margin).
Hormonal Therapy	Tamoxifen 20 mg daily	Strong ER/PR positivity; standard adjuvant for male BC.
Surveillance	CT Chest/Abdomen/Pelvis	Rule out distant metastasis 6 months post-radiation.

Patient Perspective

The patient provided written informed consent for publication. He stated: *"I was a fool to wait six months. I was scared and, honestly, a little ashamed... I hope other men read this and don't wait as I did. Go to the doctor."*

DISCUSSION

This case illustrates three important clinical lessons: the extreme rarity of pure invasive lobular carcinoma (ILC) in the male breast, the significant risk of histopathological discordance between core needle biopsy and final surgical pathology, and the management of a triple-positive receptor profile in a male patient with an uncommon histological subtype.

Rarity and Clinicopathological Characteristics of Male ILC

Male breast cancer accounts for less than 1% of all breast cancers, and ILC comprises only 1–2% of those cases, making it an exceptionally rare diagnosis [1,2]. This low incidence is directly related to the rudimentary state of the male breast, which typically lacks terminal duct-lobular units—the anatomical structures from which lobular neoplasia arises [1]. Consequently, when ILC does occur in men, it often presents at an advanced stage, as in our patient (T4b N1 M0), reflecting both the insidious growth pattern of lobular carcinoma and delayed healthcare seeking [6]. Older age, a family history of breast cancer, and genetic mutations (particularly BRCA2) are established risk factors for male breast cancer; however, the specific risk factors for lobular as opposed to ductal histology in men remain poorly defined due to the small number of cases [6]. Our patient's negative family history and refusal of genetic testing unfortunately leave his genetic predisposition unknown, a gap frequently encountered in resource-limited settings.

Discordance Between Core Biopsy and Surgical Pathology

The diagnostic pivot from ductal NST on core biopsy to classic ILC on the mastectomy specimen is the most instructive feature of this case. Core needle biopsy is the gold-standard preoperative diagnostic tool, yet it is subject to sampling limitations, particularly in large (>5 cm) or heterogeneous tumors [3,7]. Lobular carcinoma cells are characterized by a loss of E-cadherin-mediated cell adhesion, resulting in a dyshesive, single-file ("Indian file") infiltration pattern that does not form a well-circumscribed mass. As a result, the tumor stroma is often abundant relative to the neoplastic cells, and the scant cellularity on a limited core specimen can be misinterpreted as a poorly cohesive ductal carcinoma [3,7]. In a systematic review of male ILC, a substantial minority of cases were initially misclassified on core biopsy, leading to potential alterations in neoadjuvant treatment planning and surgical decision-making [8]. The clinical implication is twofold. First, the possibility of a lobular phenotype should be considered when a core biopsy of a large, infiltrative breast mass is reported as NST with a prominent desmoplastic stroma or a poorly cohesive growth pattern. Second, all surgical specimens must undergo thorough sampling with a low threshold for E-cadherin immunohistochemistry to establish the definitive histotype.

Diagnostic Role of E-Cadherin and Immunohistochemistry

The distinction between ILC and ductal NST is not merely academic; it has implications for prognostic counseling and surveillance. The hallmark of lobular carcinoma is the absence of membranous E-cadherin expression, resulting from inactivation of the CDH1 gene [9]. In our case, the negative E-cadherin stain confirmed the lobular phenotype and resolved the diagnostic uncertainty created by the core biopsy. Pathologists should employ a panel that includes E-cadherin and high-molecular-weight cytokeratins (e.g., CK5/6) when the morphology is equivocal, as lobular carcinomas typically exhibit a luminal cytokeratin profile and lack basal-like markers [9]. The availability of a definitive IHC-confirmed diagnosis in the final specimen allowed the multidisciplinary team to tailor post-operative treatment and to anticipate the characteristic metastatic patterns of ILC, which include the peritoneum, gastrointestinal tract, and leptomeninges rather than the lung and liver predominance of ductal carcinoma [4,10].

Triple-Positive Lobular Carcinoma in Males

Male breast cancers are overwhelmingly ER-positive and HER2-negative (Luminal A-like). The triple-positive subtype (ER+/PR+/HER2+) is uncommon in men, and its coexistence with pure lobular histology represents an exceptional intersection of aggressive biology and a targeted therapeutic window. A recent literature review identified fewer than 20 published cases of HER2-positive ILC in male patients, making our case a rare addition to the literature [11]. While anti-HER2 therapy with trastuzumab has dramatically improved outcomes in HER2-positive breast cancer irrespective of sex, lobular carcinomas are known to be relatively chemoresistant, often achieving lower rates of pathological complete response after neoadjuvant therapy compared to ductal NST [5,12]. Our patient demonstrated only a partial radiologic response, leaving a 66 mm residual tumor bed and an R1 deep margin, consistent with this relative chemoresistance. The deep margin involvement despite neoadjuvant therapy underscores the infiltrative growth pattern of ILC, which often extends beyond palpable or radiologically visible disease boundaries. Adjuvant management, as summarized in Table 1, therefore integrated maximal local control (PMRT with a boost), one year of trastuzumab, and

prolonged endocrine therapy with tamoxifen, which remains the standard of care for hormone receptor-positive male breast cancer [13].

Limitations and Clinical Implications

The primary limitation of this report is its single-case design. However, the extreme rarity of triple-positive male ILC means that each well-documented case contributes meaningfully to the literature. Clinicians should maintain a high index of suspicion for lobular histology in male patients presenting with large, infiltrative tumors, even when a core biopsy suggests a ductal phenotype. Intra-operative assessment of margins, careful pathological evaluation of the entire specimen, and liberal use of E-cadherin immunostaining are strongly recommended. This case reinforces the indispensable role of the multidisciplinary team in optimizing outcomes for patients with rare breast malignancies.

CONCLUSION

This case report highlights that Invasive Lobular Carcinoma of the male breast can successfully masquerade as ductal NST on pre-operative core biopsy. Clinicians should maintain a high index of suspicion for discordant histology, particularly in large, infiltrative tumors with a triple-positive receptor profile. Definitive diagnosis relies on thorough evaluation of the surgical specimen and E-Cadherin immunohistochemistry. This case adds to the sparse body of literature on triple-positive male ILC. It reinforces the necessity of complete multidisciplinary management, including targeted HER2-directed therapy, to optimize outcomes in this rare patient population.

Declarations

Ethics approval and consent to participate

This case report was conducted in accordance with the Declaration of Helsinki. As a retrospective description of clinical care, formal Institutional Review Board (IRB) approval was waived per institutional policy for case reports involving a single patient. The patient provided informed consent for all treatment and for participation in this report.

Consent for publication

The authors certify that they have obtained written informed consent from the patient for publication of this case report and any accompanying images and clinical information. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Availability of data and materials

All data generated or analyzed during this study are included in this published article. No additional datasets were generated.

Competing interests

The authors declare that they have no competing interests.

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