



Bilateral Metastatic Gynecomastia from Small-Cell Lung Tumors in a Man: A Report of a Rare Case

KARIMA EL HOUARI 
SOPHIE VANDEWALLE

*Author affiliations can be found in the back matter of this article

CASE REPORT



ABSTRACT

A case of a man with the recent onset of painful bilateral firm gynecomastia is reported. Mammography confirmed increased breast density. Biopsy characterized both masses as metastases of a small-cell lung tumor.

This case highlights the atypical presentation and complements the literature regarding the rarity of breast metastases from small-cell lung cancer in men.

Teaching point: Bilateral gynecomastia in a man with a long history of cigarette smoking should be considered with caution.

CORRESPONDING AUTHOR:

Karima El Houari

Hôpital Universitaire de
Bruxelles (H.U.B)-Hôpital
Erasmus, Belgium

karima.el.houari@ulb.be

KEYWORDS:

Gynecomastia, breast
metastasis, male,
small-cell carcinoma,
immunohistochemistry

TO CITE THIS ARTICLE:

El Houari K, Vandewalle
S. Bilateral Metastatic
Gynecomastia from Small-Cell
Lung Tumors in a Man: A
Report of a Rare Case. *Journal
of the Belgian Society of
Radiology*. 2024; 108(1):
54, 1–4. DOI: <https://doi.org/10.5334/jbsr.3596>

INTRODUCTION

Breast metastases from small-cell lung cancer (SLCS) are exceptional in men (0.2%–1.3%) [1, 2]. Differentiating between a primary small-cell breast tumor and breast metastases of a small-cell lung tumor is a diagnostic challenge given their common morphological characteristics [1, 3]. This rare case complements the existing scarce literature and highlights the atypical presentation of small-cell lung tumors in males [4].

CASE REPORT

We report the case of a 53-year-old man referred for the exploration of bilateral, painful, and firm breast development, which appeared within 1 month. The patient was known for alcohol abuse and was a long-time smoker. There was no personal or family history of breast cancer. A clinical examination confirmed bilateral gynecomastia with induration.

A mammogram revealed the presence of a macrolobulated retro-nipple opacity bilaterally (Figure 1), measuring 52 × 38 × 50 mm on the right and 50 × 50 × 40 mm on the left, and with blurred posterior contour (white arrow). Both masses were classified as BIRADS 4 (Figure 1).

Ultrasound confirmed the presence of an irregular marginated lobulated hypoechogenic and vascularized masses in both breasts (right Figure 2a; left Figure 2b). Bilateral axillary lymphadenopathy with cortical thickening was also present.

Microbiopsies of the breast masses and cytopuncture of axillary lymphadenopathy revealed breast metastases of a small-cell tumor.

The thoraco-abdominal computed tomography (CT) scan confirmed the presence of a large right upper lobar budding tumor, histologically a small-cell bronchial carcinoma (Figure 3).

The treatment proposed was chemotherapy and immunotherapy.

DISCUSSION

SLCS is an aggressive neuroendocrine tumor that exceptionally metastasizes to the breast (0.2%–1.3%) [1, 5]. Pulmonary SLCS is often diagnosed incidentally, given its insidious nature [2, 6]. There are only two cases of bilateral breast metastases from pulmonary SLCS in male patients reported in the literature in 1976 and 2011 [7, 3].



Figure 1 Mammogram with external oblique view of the right breast and the left breast demonstrating an increase in breast density with a macrolobulated shape bilaterally, with blurred posterior contours (white arrowhead) and retronipple topography. No contact with the pectoral muscle.

Malignancy must be considered in cases of recent-onset gynecomastia associated with smoking [8]. In addition, it is imperative to distinguish between a primary breast and metastasized pulmonary SLCS because the therapeutic approach and the prognosis are different [3, 9, 10].

Although breast metastatic lesions are more superficial and do not cause skin retraction, a distinction between both entities is impossible [1, 11]. A biopsy is required and the final diagnosis is based on the histological and immunohistochemical analysis, including TTF1 marker, neuroendocrine (NSE, chromogranin A, and synaptophysin), and hormonal receptors [3, 10]. The TTF-1 marker not being specific on its own. [1].

CONCLUSION

Breast metastases from SLCS are exceptional, especially in male. The distinction between pulmonary and breast small-cell tumors is a diagnostic challenge in imaging. Biopsy and extensive immunohistochemical analyzes are essential for differentiation and therapeutic management.

COMPETING INTERESTS

The authors have no competing interests to declare.

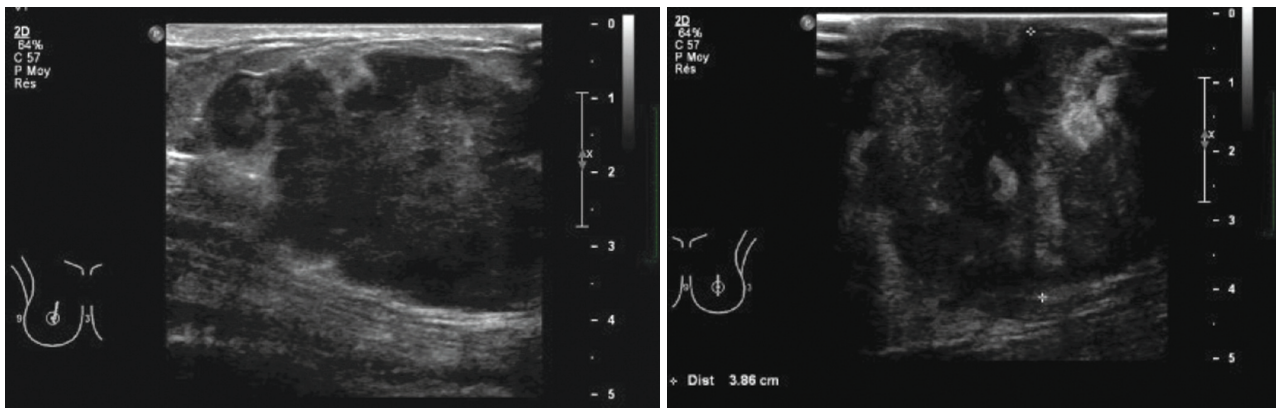


Figure 2 (a) Ultrasound right breast longitudinally. **(b)** Ultrasound the left breast. Ultrasound confirmed the presence of an irregular marginated lobulated hypoechoic and vascularized masses in both breasts.

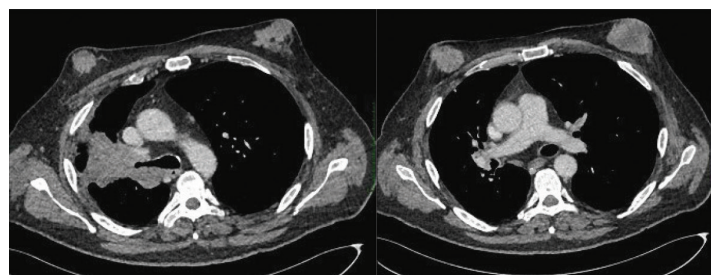



Figure 3 Thoraco-abdominal CT scan injected into the parenchymal window: left upper lobar mass stenosing the right lobar bronchus and “mass” type breast tissue development, bilaterally.

PATIENT CONSENT

I declare that the written and informed consent of the patient has been obtained for the publication of the case.

AUTHOR AFFILIATIONS

Karima El Houari  orcid.org/0009-0009-6217-5686 Hôpital Universitaire de Bruxelles (H.U.B)-Hôpital Erasme, Belgium

Sophie Vandewalle Centre Hospitalier Universitaire Tivoli (C.H.U Tivoli), La Louvière, Belgium

REFERENCES

1. **Khoury R, Bucau M, Bizot A, Khalil A.** Breast metastasis of a lung carcinoma. *BJR case Rep.* 2022;8(2):20210142. DOI: <https://doi.org/10.1259/bjrcr.20210142>.
2. **Bannon M, Marak C, Ashraf A, et al.** Unusual presentation of a small cell lung cancer with bilateral breast metastases: Case report and a brief review of the literature. *Respir Med Case Rep.* 2022;38:101693. DOI: <https://doi.org/10.1016/j.rmcr.2022.101693>.
3. **Altintoprak F, Baytekin HF, Tasdemir C.** Primary small cell carcinoma of the lung presenting with breast and skin metastases. *Korean J Intern Med.* 2011;26(2):207–209. DOI: <https://doi.org/10.3904/kjim.2011.26.2.207>.
4. **Mirrielees JA, Kapur JH, Szalkucki LM, et al.** Metastasis of primary lung carcinoma to the breast: A systematic review of the literature. *J Surg Res.* 2014;188(2):419–431. DOI: <https://doi.org/10.1016/j.jss.2014.01.024>.
5. **Güldoğan N, İçten GE, Tokat F, et al.** Three cases of breast metastases from lung cancer and systematic review of the literature. *Eur J Breast Health.* 2021;17(2):200–205. DOI: <https://doi.org/10.4274/ejbh.galenos.2020.5703>.
6. **Economopoulou P, Chrysikopoulou A, Goula K, et al.** Breast Metastasis from neuroendocrine carcinoma of the lung: A case report and review of the literature. *Case Rep Oncol.* 2020;13(3):1281–1284. DOI: <https://doi.org/10.1159/000510936>.
7. **Giarelli L, Ferlito A.** Bilateral Breast metastases from oat-cell lung carcinoma in a man treated with diethylstilbestrol for prostatic adenocarcinoma. *J Am Geriatr Soc.* 1976;24(11):511–515. DOI: <https://doi.org/10.1111/j.1532-5415.1976.tb03274.x>.
8. **Collins LG, Haines C, Perkel R, Enck RE.** Lung cancer: Diagnosis and management. *Am Fam Physician.* 2007;75(1):56–63.
9. **El Fatemi H, Hammam N, Moumna K, Bedahou M, Mellas N, Mesbahi O.** Carcinome neuroendocrine du sein: À propos d'un cas et revue de la littérature. *Pan Afr Med J.* 2012;13:40. DOI: <https://doi.org/10.11604/pamj.2016.24.78.8546>.

10. **Zinzuwadia S, Olivieri J, Zhang C, Ananthanarayanan V, Freiburg L, Allam E.** Bilateral breast metastases from small cell lung carcinoma: Case report and review of the literature. *Radiol Case Rep.* 2021;16(7):1718–1726. DOI: <https://doi.org/10.1016/j.radcr.2021.03.056>.
11. **Babu KS, Roberts F, Bryden F,** et al. Metastases to breast from primary lung cancer. *J Thorac Oncol.* 2009;4(4):540–542. DOI: <https://doi.org/10.1097/JTO.0b013e31819c8556>.

TO CITE THIS ARTICLE:

El Houari K, Vandewalle S. Bilateral Metastatic Gynecomastia from Small-Cell Lung Tumors in a Man: A Report of a Rare Case. *Journal of the Belgian Society of Radiology.* 2024; 108(1): 54, 1–4. DOI: <https://doi.org/10.5334/jbsr.3596>

Submitted: 28 March 2024 **Accepted:** 6 May 2024 **Published:** 15 May 2024

COPYRIGHT:

© 2024 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See <https://creativecommons.org/licenses/by/4.0/>.

Journal of the Belgian Society of Radiology is a peer-reviewed open access journal published by Ubiquity Press.