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Case Report

Solitary pulmonary nodule from metastatic endometrioid endometrial carcinoma: case report and histopathologic review

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ABSTRACT

Endometrioid endometrial carcinoma is the most common subtype of endometrial cancer. Distant metastases are uncommon, and pulmonary involvement is rare, especially as a solitary pulmonary nodule. We report a case of pulmonary metastasis from endometrioid endometrial carcinoma, emphasizing the diagnostic value of histopathology, immunohistochemistry, and clinicopathological correlation. A 61-year-old woman with a history of FIGO grade 2 endometrioid endometrial carcinoma, treated with adjuvant radiotherapy and brachytherapy, underwent oncologic follow-up. One year later, computed tomography revealed a 35 x 22 mm lesion in the posterior basal segment of the right lower lobe. Right lower lobectomy was performed. Gross examination revealed a well-circumscribed cystic nodule containing yellow mucinous material. Microscopically, the lesion showed a malignant glandular proliferation composed of irregular glands with focal cystic dilatation and intraluminal mucin. These glands were lined by cuboidal to columnar cells exhibiting mild to moderate atypia, loss of polarity, and occasional mitotic figures. The adjacent lung parenchyma showed necrosis and mixed inflammatory infiltrates. Surgical margins were free of tumour. Immunohistochemically, the neoplastic cells were positive for CK7 and estrogen receptor and negative for CK20, CDX2, and SATB2, supporting the diagnosis of metastatic carcinoma without intestinal differentiation. In patients with a history of endometrioid endometrial carcinoma, a solitary pulmonary nodule should raise suspicion for metastasis. When immunohistochemical resources are limited, clinical, imaging, and pathologic correlation is essential for accurate diagnosis.

Keywords: Histology, Pathology specimens, Metastatic carcinoma, Solitary pulmonary nodule, Immunohistochemistry, Carcinoma endometrium

INTRODUCTION

Endometrioid endometrial carcinoma is the most common histologic subtype of endometrial cancer and, compared with non-endometrioid subtypes, is generally associated with a better prognosis.[1] It primarily affects postmenopausal women, with a median age at diagnosis of 63 years, and is histologically characterized by a malignant epithelial neoplasm with endometrioid differentiation and variable proportions of glandular, papillary, or solid architecture.[2,3] Although most cases are detected at an early stage, distant metastasis occurs in approximately 3.7% of cases; the lung is a recognized but uncommon site of dissemination, with a reported incidence of 1.5% to 4.6%, particularly in high-grade tumours, advanced-stage disease, and in the presence of adverse histopathologic factors such as deep myometrial invasion.[4,5] Presentation as a solitary pulmonary nodule represents a diagnostic challenge, as it requires distinction between metastasis, primary pulmonary adenocarcinoma, and other extra thoracic primary tumours. We present a case of pulmonary metastasis from endometrioid endometrial carcinoma, highlighting the histopathological and

immunohistochemical findings, the differential diagnosis, and the importance of clinicopathological correlation.

CASE REPORT

A 61-year-old woman with a history of FIGO grade 2 endometrioid endometrial carcinoma diagnosed in 2022, type 2 diabetes mellitus, and systemic arterial hypertension was under follow-up by the Gynaecologic Oncology service. She received adjuvant treatment with radiotherapy in 28 fractions and brachytherapy in three sessions, completed in 2023.

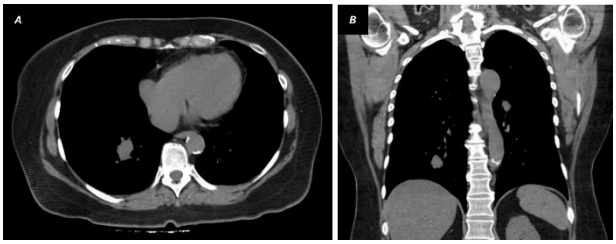

Figure 1(A and B): Contrast-enhanced thoracoabdominopelvic CT scan in axial and coronal planes showing an irregular nodule measuring 35 × 22 mm, with an attenuation of 56 HU, located in the posterior basal segment of the right lung.

During surveillance, she remained asymptomatic, with no signs of hemodynamic instability or respiratory symptoms. One year later, a follow-up computed tomography scan identified a 35×22 mm pulmonary lesion located in the posterior basal segment of the right lower lobe (Figure 1). A surgical workup was initiated, and an exploratory thoracotomy with right lower lobectomy was performed without intraoperative complications.

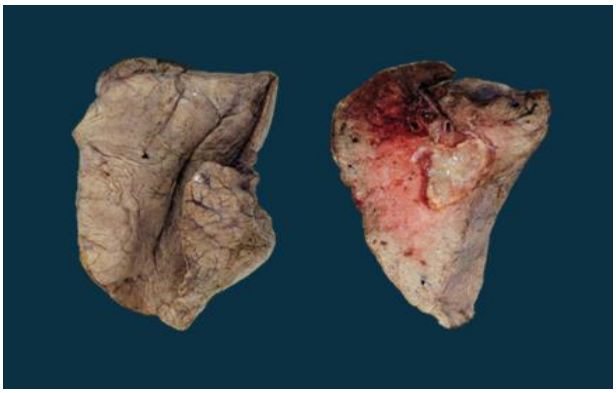

Figure 2: Gross findings. Right lower lobectomy specimen (11.0 x 9.0 x 8.0 cm) with a well-circumscribed cystic nodule (3.0 x 2.0 x 2.0 cm) containing yellow mucinous material, located 1.0 cm from the pleural surface and 2.0 cm from the closest resection margin.

Gross examination showed a well-circumscribed nodular lesion with a cystic appearance, filled with yellow mucinous material (Figure 2).

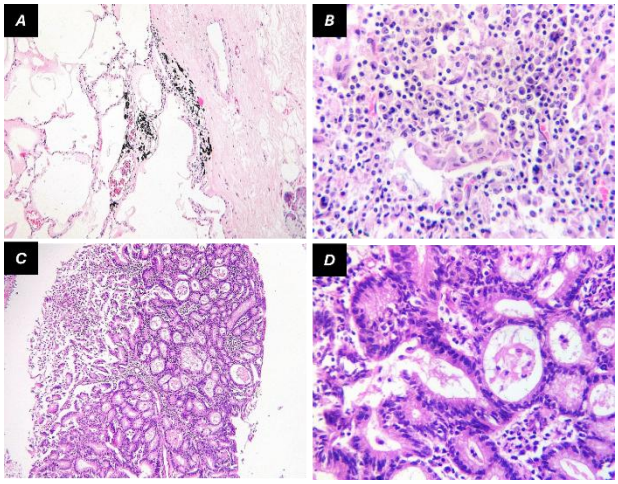

Figure 3: Histopathologic findings in the lung: (A) pulmonary parenchyma with anthracosis, (B) mixed inflammatory infiltrate associated with areas of necrosis and architectural distortion, (C) well-circumscribed malignant glandular epithelial proliferation, composed of irregular glands with intraluminal mucinous material and (D) glands lined by epithelial cells showing mild-to-moderate pleomorphism and loss of nuclear polarity.

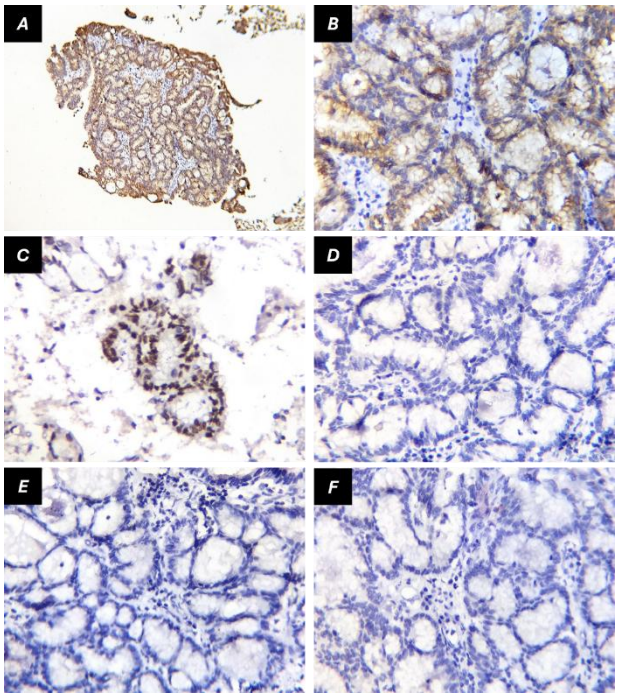

Figure 4: Immunohistochemical profile supporting the diagnosis of metastatic endometrial carcinoma: (A and B) CK7 cytoplasmic positivity, (C) re nuclear positivity, (D) negative CK20 expression, (E) negative CDX2 expression and (F) negative SATB2 expression.

Microscopically, a malignant glandular epithelial proliferation was identified, composed of irregular glands of variable size and shape, some with cystic dilatation and intraluminal mucinous material. The glands were lined by

cuboidal to columnar epithelial cells with eosinophilic cytoplasm and elongated hyperchromatic nuclei, showing mild to moderate pleomorphism, loss of polarity, and occasional mitotic figures. The lung parenchyma showed extensive areas of architectural loss associated with necrosis and a mixed acute and chronic inflammatory infiltrate (Figure 3). The surgical margins were free of tumour. The immunophenotypic profile showed CK7 (+) and ER (+), with CK20 (-), CDX2 (-), and SATB2 (-), findings consistent with metastatic endometrial carcinoma and supporting exclusion of intestinal differentiation (Figure 4).

Following pulmonary surgery with curative intent and R0 resection, the patient remains on letrozole therapy. At her most recent follow-up visit, serum CA-125 levels were within normal limits, and both the Pap smear and colposcopic examination were unremarkable. She has had a favourable clinical course to date.

DISCUSSION

Pulmonary spread is a recognized route of distant metastasis in endometrial carcinoma. It most commonly presents as multiple pulmonary nodules; in contrast, presentation as a solitary pulmonary nodule is less frequent and may pose a diagnostic challenge, particularly when the lesion is detected incidentally in asymptomatic patients during oncologic surveillance. After pulmonary resection, the 5-year overall survival has been estimated at approximately 48%; factors associated with a worse prognosis include the presence of more than three metastatic lesions and the existence of respiratory symptoms at the time of diagnosis, suggesting that prognosis and the potential benefit of pulmonary metastasectomy depend largely on tumour burden and appropriate case selection.[6] In this context, one of the main challenges is distinguishing between metastasis and a primary pulmonary neoplasm, since both radiologic behaviour and gross appearance may simulate a primary tumor.[7]

From a histopathologic standpoint, the presence of a malignant glandular proliferation in the lung requires consideration of primary pulmonary adenocarcinoma and metastases, particularly of gastrointestinal origin, as the main differential diagnoses, especially when glands with intraluminal mucin are identified. In this setting, immunohistochemistry is a fundamental tool for determining the site of origin. Markers of intestinal differentiation, such as CDX2 and SATB2, support a gastrointestinal origin, whereas expression of PAX8 and estrogen receptor (ER) favors a müllerian origin and may help identify metastases from gynaecologic neoplasms.[8,9] Although ER is not entirely specific, its expression may support a gynaecologic origin when interpreted together with the rest of the immunohistochemical panel and the clinical context. Therefore, clinicopathologic integration is essential to avoid diagnostic errors. In the present case, the history of endometrioid carcinoma and the identification of a solitary pulmonary nodule were key findings that guided the diagnosis toward metastasis.

CONCLUSION

A solitary pulmonary nodule in a patient with a history of endometrioid endometrial carcinoma should prompt consideration of metastasis in the differential diagnosis, including the need to exclude a gastrointestinal primary and a primary pulmonary tumour. In settings where the available immunohistochemical panel is limited, integration of the clinical findings, oncologic history, and imaging features is essential to guide the diagnosis and minimize interpretive errors. In this case, surgical resection and pathologic examination allowed the diagnosis to be established, and to date, the patient has had a favourable clinical course, with no evidence of pulmonary recurrence.

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REFERENCES

1. Arnold M, Karim-Kos HE, Coebergh JW, Byrnes G, Antilla A, Ferlay J, et al. Recent trends in incidence of five common cancers in 26 European countries since 1988: analysis of the European Cancer Observatory. Eur J Cancer. 2015;51(9):1164-87.
2. Tai YJ, Chiang CJ, Chiang YC, Chang WH, Chen CP, Huang HY. Age-specific trend and birth cohort effect on different histologic types of uterine corpus cancers. Sci Rep. 2023;13:1019.
3. Bosse T, Davidson B, Singh N. Endometrioid carcinoma of the uterine corpus. In: WHO Classification of Tumours Editorial Board, ed. Female genital tumours. 5th ed. Lyon, France: International Agency for Research on Cancer. 2020.
4. Zheng Y, Jiang P, Tu Y, Huang Y, Wang J, Gou S, et al. Incidence, risk factors, and a prognostic nomogram for distant metastasis in endometrial cancer: a SEER-based study. Int J Gynaecol Obstet. 2024;165(2):655-65.
5. Otsuka I, Ono I, Akamatsu H, Sunamori M, Aso T. Pulmonary metastasis from endometrial carcinoma. Int J Gynecol Cancer. 2002;12(2):208-13.
6. Paik ES, Yoon A, Lee YY, Kim TJ, Lee JW, Bae DS, et al. Pulmonary metastasectomy in uterine malignancy: outcomes and prognostic factors. J Gynecol Oncol. 2015;26(4):270-6.

7. Kurra V, Krajewski KM, Jagannathan J, Giardino A, Berlin S, Ramaiya N. Typical and atypical metastatic sites of recurrent endometrial carcinoma. Cancer Imaging. 2013;13(1):113-22.
8. Malmros K, Lindholm A, Vidarsdottir H, Jirström K, Nodin B, Botling J, et al. Diagnostic gastrointestinal markers in primary lung cancer and pulmonary metastases. Virchows Arch. 2024;485(2):347-57.
9. Selves J, Long-Mira E, Mathieu MC, Rochaix P, Ilié M. Immunohistochemistry for diagnosis of metastatic carcinomas of unknown primary site. Cancers (Basel). 2018;10(4):108.

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