



CLINICAL IMAGE

An adrenal incidentaloma caused by synchronous and isolated metastasis

Koichiro Yamamoto¹  | Kosuke Oka¹ | Hiroyuki Honda¹ | Kou Hasegawa¹ | Yoshihisa Hanayama¹ | Tomofumi Watanabe² | Yusuke Tominaga² | Atsushi Takamoto² | Takayuki Hara³ | Fumio Otsuka¹ 

¹Department of General Medicine, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, Japan

²Department of Urology, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, Japan

³Department of Nephrology, Rheumatology, Endocrinology and Metabolism, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, Japan

Correspondence

Koichiro Yamamoto, Department of General Medicine, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, 2-5-1 Shikata-cho, Kita-ku, 700-8558 Okayama, Japan.
Email: pi291nd8@s.okayama-u.ac.jp

Abstract

We report a patient with adrenal incidentaloma due to synchronous and isolated metastasis from lung cancer, which is a relatively rare condition. Close checkups for incidentaloma in oncologic patients are mandatory, leading to successful operation.

KEYWORDS

adrenal metastasis, incidentaloma, lung cancer, oligometastasis

An 82-year-old male presented with a left adrenal incidentaloma (1 cm, Figure 1A) detected by contrast-enhanced computed tomography (CE-CT) that was performed for a thorough examination of primary lung cancer. Dynamic adrenal magnetic resonance imaging indicated that the adrenal tumor was compatible with adrenocortical adenoma (Figure 1B), and no metastatic lesion was detected in the whole body including the left adrenal gland by ¹⁸F-positron emission tomography/CT (PET/CT) (Figure 1C). The patient had undergone surgery for lung cancer, and the tumor histopathology confirmed a diagnosis of adenocarcinoma. Three months later, CE-CT showed an enlarged left adrenal tumor (3 cm, Figure 1D). Endocrinological workup for basal adrenal functions and scintigraphy examinations using ¹³¹I-adosterol (Figure 1E) and ¹²³I-metaiodobenzylguanidine showed that adrenocortical and adrenomedullar functions were almost preserved and that

the left adrenal tumor was nonfunctional. Laparoscopic adrenalectomy was performed for the left adrenal tumor. The resected adrenal had necrosis and bleeding in the tumor sections (4 cm, Figure 1F, *upper*), and histopathology of the tumor was compatible with metastasis of lung cancer (Figure 1F, *lower*), while the adjacent normal adrenal was morphologically preserved.

The occurrence rate of adrenal metastases in patients with lung carcinoma is 35%,¹ whereas the incidence of isolated adrenal metastases is relatively low.² Prognosis of patients treated with adrenalectomy for synchronous and isolated adrenal metastasis from non-small-cell lung cancer, as in our case, is poor, the median survival rate is 1 year.² Oncologic patients, such as patients with lung cancer, breast cancer, or malignant melanoma, should be carefully monitored for secondary adrenal incidentaloma, even in cases in which metastasis was not initially detected by PET/CT.

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2021 The Authors. *Clinical Case Reports* published by John Wiley & Sons Ltd.

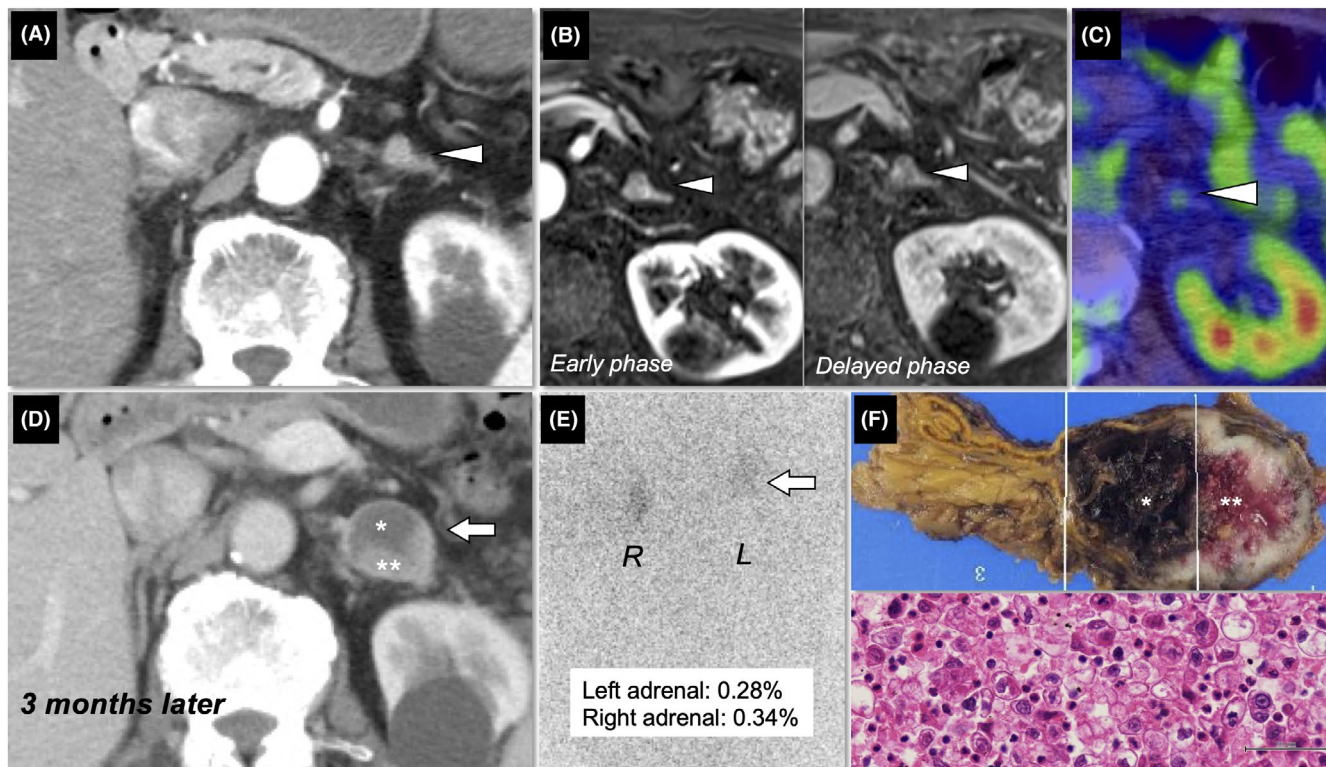


FIGURE 1 A, Contrast-enhanced computed tomography (CE-CT) revealed a left adrenal incidentaloma (1 cm, *arrowhead*). B, Dynamic adrenal magnetic resonance imaging suggested a left adrenal adenoma (*arrowheads*). C, ^{18}F -positron emission tomography/CT showed no metastasis including the left adrenal gland (*arrowheads*). D, Follow-up CE-CT revealed an enlarged left adrenal tumor (3 cm, *arrow*), suggesting that the tumor had necrosis (*) and bleeding (**). E, Scintigraphy examinations using ^{131}I -adosterol showed normal adrenal uptake. F, Macroscopic findings of the tumor section showed necrosis (*) and bleeding (**) (*upper*), and tumor histopathology was consistent with lung cancer metastasis (*lower*)

ACKNOWLEDGMENTS

None.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

KY: wrote the first draft and managed all of the submission process. KO, HH, KH, YH, TW, YT, AT, and TH: contributed to the clinical management of the patient. FO: organized the manuscript.

ETHICAL APPROVAL

Informed consent was obtained from the patient to publish this case report.

ORCID

Koichiro Yamamoto  <https://orcid.org/0000-0001-9571-1646>
Fumio Otsuka  <https://orcid.org/0000-0001-7014-9095>

REFERENCES

1. Wagnerova H, Lazurova I, Felsoci M. Adrenal metastases. *Bratisl Lek Listy*. 2013;114:237-240.
2. Tanvetyanon T, Robinson LA, Schell MJ, et al. Outcomes of adrenalectomy for isolated synchronous versus metachronous adrenal metastases in non-small-cell lung cancer: a systematic review and pooled analysis. *J Clin Oncol*. 2008;26:1142-1147.

How to cite this article: Yamamoto K, Oka K, Honda H, et al. An adrenal incidentaloma caused by synchronous and isolated metastasis. *Clin Case Rep*. 2021;9:2494–2495. <https://doi.org/10.1002/ccr3.3996>