



# Disseminated cryptococcosis in a renal transplant recipient

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Associate Editor: Jennifer Ann Wi

## Key message

Skin cryptococcosis often manifests as an umbilicated papule, and chest computed tomography findings of multiple nodules and cavities are also characteristic. The combination of characteristic cutaneous manifestations and radiological findings can help clinicians make an “at-a-glance” diagnosis of disseminated cryptococcosis.

## KEYWORDS

disseminated cryptococcosis, lung nodules, papule, renal transplant recipient

## CLINICAL IMAGE

A 64-year-old man presented with a 2-week history of chest pain and dyspnea on exertion. He had undergone renal transplantation due to immunoglobulin A nephropathy 14 months previously. His medications included methylprednisolone, tacrolimus and mycophenolate mofetil. An umbilicated brown papule was noted on his nasal bridge (Figure 1A). Chest computed tomography revealed multiple nodules, infiltrations with air bronchograms, cavitory lesions and a pleural effusion (Figure 1B). Laboratory testing revealed a serum cryptococcal antigen dilution titre of 1:16384 (reference: <1:2). Further, *Cryptococcus neoformans* was grown on sputum culture. A skin biopsy of the nasal lesion showed numerous yeast forms with thick capsules and budding on histology (Figure 1C), confirming the diagnosis of disseminated cryptococcosis. The cutaneous and pulmonary lesions improved following treatment with liposomal amphotericin B and flucytosine. Cryptococcosis is the third most common invasive fungal infection in solid organ transplant recipients,<sup>1</sup> and is a significant cause of morbidity

and mortality. Skin cryptococcosis often manifests as an umbilicated papule.<sup>2</sup> The combination of characteristic cutaneous manifestations and radiological findings can help clinicians make an “at-a-glance” diagnosis. If clinicians suspect secondary cryptococcosis in a skin lesion as a complication of disseminated disease, diagnostic evaluation and optimal targeted therapy should be provided immediately.

## AUTHOR CONTRIBUTION

All authors provided patient care. Seira Ozawa, Shigeo Hanada and Daiya Takai drafted and edited manuscript and selected the images. All authors contributed to interpretation of the data, and critically reviewed and approved the final version of the manuscript.

## CONFLICT OF INTEREST

None declared.

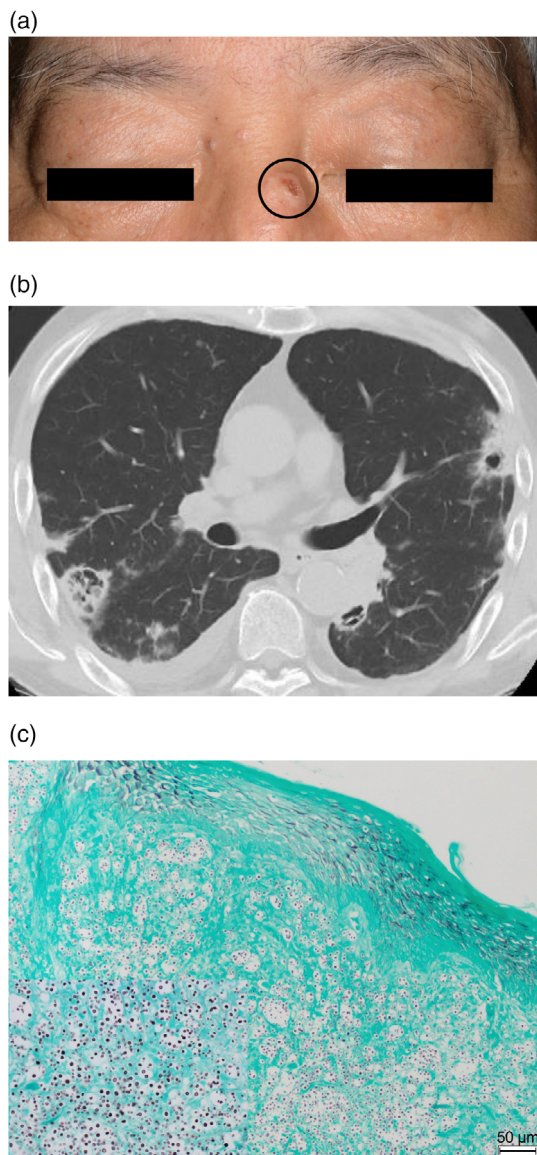
## DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

Seira Ozawa and Shigeo Hanada contributed equally to this work.

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**FIGURE 1** A papulonodular lesion with an umbilicated center, resembling molluscum contagiosum, is present on the nasal bridge (A). Chest computed tomography shows multiple nodules, cavitary lesions, infiltrations with air bronchograms, and a pleural effusion (B). Grocott staining of a skin biopsy specimen shows numerous yeastlike organisms surrounded by mucinous capsules and budding on histology (C). The 50 µm bar shows the scale.

## ETHICS STATEMENT

The authors declare that appropriate written informed consent was obtained for the publication of this manuscript and accompanying images, including the photograph of the patient's face.

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## REFERENCES

1. Baddley JW, Forrest GN, AST Infectious diseases Community of Practice. Cryptococcosis in solid organ transplantation—guidelines from the American Society of Transplantation Infectious Diseases Community of Practice. *Clin Transplant*. 2019;33:e13543. <https://doi.org/10.1111/ctr.13543>
2. Noguchi H, Matsumoto T, Kimura U, Hiruma M, Kusuhara M, Ihn H. Cutaneous cryptococcosis. *Med Mycol J*. 2019;60:101–7. <https://doi.org/10.3314/mmj.19.008>

**How to cite this article:** Ozawa S, Hanada S, Uruga H, Ito H, Nakahama H, Ishikawa N, et al. Disseminated cryptococcosis in a renal transplant recipient. *Respirology Case Reports*. 2022;10:e01011. <https://doi.org/10.1002/rcr2.1011>