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# Fungal thyroiditis in a lung transplant recipient

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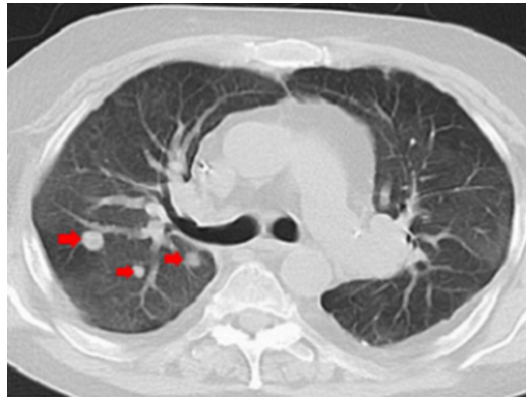
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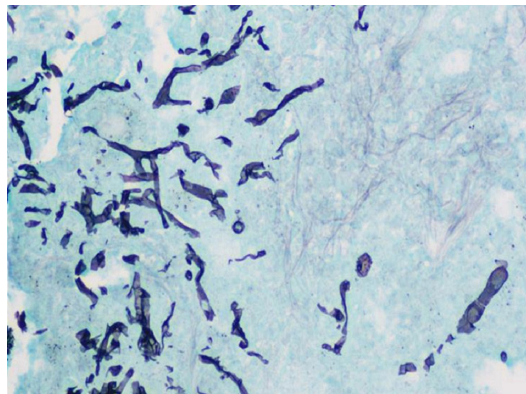
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## DESCRIPTION

A 59-year-old man was admitted with 3 weeks of worsening shortness of breath 18 months after receiving

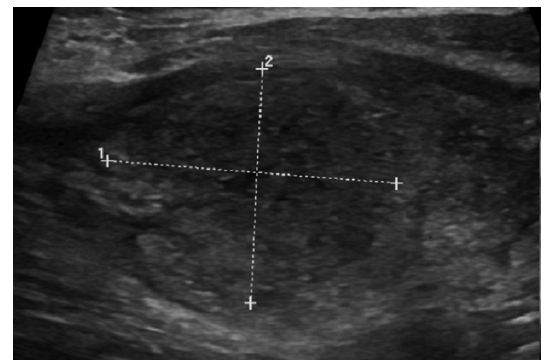


**Figure 1** Chest CT showing multiple pulmonary nodules in the right lower lung field (red arrows).

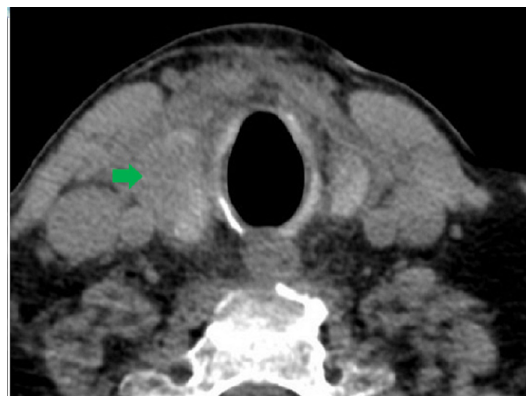


**Figure 2** Fungal hyphae are present on Gomori Methenamine-Silver (GMS) stain from CT-guided lung biopsy (x200).

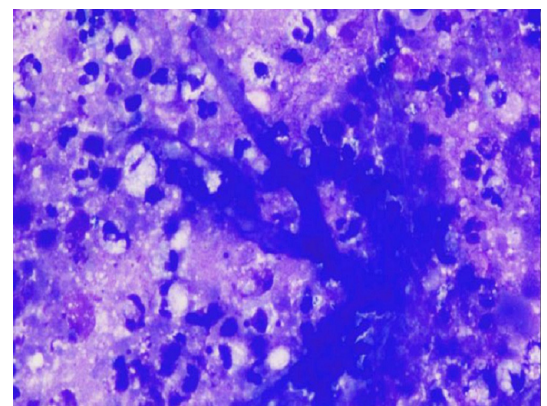
a bilateral lung transplant for idiopathic pulmonary fibrosis. His immunosuppression included tacrolimus, everolimus and low-dose prednisone with no antifungal prophylaxis at the time of admission. CT chest revealed multiple, bilateral pulmonary nodules (figure 1—red arrows). CT-guided biopsy revealed fungal hyphae (figure 2). The initial CT and ultrasound of the neck at the onset of sore throat was negative; however, repeat CT neck for evolving neck pain and dysphasia during hospital course showed a mass-like lesion in the right thyroid lobe with extensive surrounding inflammatory changes (figure 3—green arrow). The lesion was also visualised on ultrasound, where it appeared as a hypoechoic solitary nodule (figure 4). Laboratory evaluation revealed hyperthyroidism, with a Thyroid Stimulating Hormone (TSH) of  $<0.01 \mu\text{IU/mL}$  (normal:  $0.35\text{--}4.94 \mu\text{IU/mL}$ ) and a free T4 of  $2.72 \text{ ng/dL}$  (normal:  $0.70\text{--}1.48 \text{ ng/dL}$ ). The patient was initiated on dual antifungal therapy with liposomal amphotericin and posaconazole, resulting in rapid resolution of neck pain. However, repeat CT neck 2 weeks after revealed a thyroid abscess in the



**Figure 4** Thyroid ultrasound reveals a  $2.8 \times 2.3 \text{ cm}$  hypoechoic lesion in the right thyroid isthmus.



**Figure 3** CT of the neck revealed a mass-like lesion in the right lobe of the thyroid (green arrow).



**Figure 5** Fungal hyphae were present in the necrotic material from the thyroid abscess debridement (H&E, x400).



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right lobe, and subsequently the patient underwent right thyroid lobectomy and isthmusectomy. Surgical debridement of the thyroid abscess revealed fungal hyphae; thus, confirming the diagnosis of fungal thyroiditis (figure 5). A specific fungal pathogen was never successfully cultured from our patient. He was treated for presumed

*Aspergillus* infection, the most common etiology of fungal thyroiditis, with clinical improvement.<sup>1</sup>

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### REFERENCE

- 1 Goldani LZ, Zavascki AP, Maia AL. Fungal thyroiditis: an overview. *Mycopathologia* 2006;161:129–39.

### Learning points

- ▶ Thyroiditis is a rare manifestation of disseminated fungal infection in immunocompromised hosts.
- ▶ *Aspergillus* spp are the most commonly implicated pathogen, although there are reports of cases due to *Cryptococcus neoformans*, *Histoplasma capsulatum*, *Coccidioides immitis* and *Candida* spp.
- ▶ Antifungal therapy targeting the culprit organism and consideration of surgical debridement are the mainstays of treatment.

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