

Pulmonary Coccidioidomycosis Linked to Shipping Containers, Taiwan, 2025

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A shipping container yard worker from Taiwan contracted laboratory-confirmed pulmonary coccidioidomycosis. He reported no travel history to endemic regions. Occupational exposure to aerosolized dust or soil residues on maritime shipping containers from endemic areas is likely. Our findings highlight international shipping as a potential pathway for introducing geographically restricted pathogens into nonendemic regions.

Coccidioidomycosis is caused by inhaling fungal spores produced by the dimorphic fungi *Coccidioides immitis* and *C. posadasii*, which inhabit arid soil primarily in the southwestern United States, northern Mexico, and parts of Central and South America (1). Outside those endemic areas, most cases are associated with travel or prior residence (2). Transmission by contaminated materials or objects from endemic regions is rare (2–4). However, increasing cargo movement from endemic regions raises the possibility that contaminated dust or soil residues might be transported and infect persons living in nonendemic regions.

In Taiwan, previously reported cases of coccidioidomycosis have been identified exclusively among persons with exposure to endemic areas (5). We report a case of locally acquired pulmonary coccidioidomycosis in a patient who had never traveled to the Americas. The patient provided written informed consent for the publication of his clinical history, occupational data, and relevant images.

The patient, a man in his 50s, was a smoker with no known underlying conditions. In August 2025, he sought care for a 2-week history of cough, fatigue, and intermittent dizziness. Chest radiography revealed a mass in the right upper lobe (RUL) with right hilar lymphadenopathy. Chest computed tomography (CT) revealed an RUL 3.0 × 2.0 cm solid mass touching the pleura, as well as enlarged right hilar, mediastinal lymph nodes, and multiple pulmonary nodules bilaterally (Figure 1). Because of the patient's age and smoking history, clinicians suspected a primary RUL lung malignancy with mediastinal and intrapulmonary metastases. The patient's serum tumor markers, including cancer antigen 19–9, carcinoembryonic antigen, squamous cell carcinoma antigen, and cancer antigen 125, were within reference ranges.

A flexible bronchoscopy retrieved tissue for histopathologic and microbiological evaluation. Endobronchial ultrasound did not show the pulmonary mass, precluding transbronchial biopsy. Pathologic examination of the fine-needle aspirate from the right hilar lymph node found granulomatous inflammation but no evidence of malignancy. Sputum and bronchoalveolar lavage specimens were negative for *Mycobacterium tuberculosis* by using PCR and culture. Fungal culture of bronchoalveolar lavage fluid yielded a colony morphologically consistent with *Coccidioides* spp. Serologic lateral flow assay was positive for *Coccidioides* antibodies, and enzyme immunoassay confirmed reactivity for both IgM and IgG. Because of potential serologic cross-reactivity among endemic dimorphic fungi in Taiwan, molecular testing by internal transcribed spacer sequencing and the CoccDx (Translational Genomics Research Institute, <https://www.tgen.org>) real-time PCR was performed, confirming *C. immitis* (6). The patient was treated with fluconazole and had gradual clinical and radiologic improvement.

The patient reported no travel to coccidioidomycosis-endemic regions nor indirect exposure in the month before illness onset, including contact with items brought by visitors from endemic areas or personally sourced from these regions. The patient had worked for years at a maritime container yard where shipping containers were stored, repaired, and cleaned after cargo removal. His duties included hammering deformed container panels and cleaning container surfaces by using high-pressure water jets, both performed without respiratory protection. Those activities could disturb residual soil or dust on container surfaces, aerosolizing *Coccidioides* arthroconidia spores and making them easier to inhale (Figure 2).

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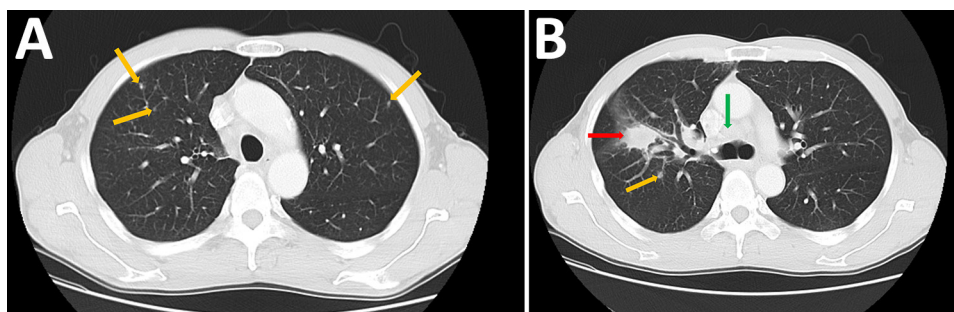


Figure 1. Chest computed tomography findings in a maritime container yard worker with pulmonary coccidioidomycosis, Taiwan, 2025. A) Axial lung-window images reveal multiple bilateral pulmonary nodules (yellow arrows). B) A 3.0 × 2.0 cm solid mass is visible in the right upper lobe (red arrow), and right hilar lymph nodes are enlarged (green arrow).

Although the specific containers involved could not be identified, the containers the patient might have worked in were associated with ports in California and Washington, USA. Because *C. immitis* is native to parts of California, Baja California, and eastern Washington (1), we considered the possibility of exposure to contaminated soil or dust transported in shipping containers. Our conclusion that this pathway was possible is supported by a previous report suggesting *Coccidioides* arthroconidia could be transported with shipped goods and aerosolized during container sweeping (4). It is also biologically plausible because of the documented environmental persistence and fomite stability of *Coccidioides* arthroconidia (7,8). Together, the absence of travel history and routine aerosol-generating container work support occupational exposure as the most likely route of acquisition.

The first limitation of our investigation is the omission of container surface environmental sampling, which precluded direct detection of aerosolized arthroconidia and prevented definitive source attribution. Second, the lack of serologic assessment among exposed co-workers limited our ability to

evaluate potential shared occupational exposure. Finally, without prior serologic or clinical data, we could not distinguish recent infection from reactivation, although we considered reactivation less likely because of the absence of recognized risk factors (9,10).

With continued global commerce integration, traditional geographic boundaries of infectious diseases might be less distinct. In nonendemic regions, early diagnosis requires clinicians to consider coccidioidomycosis in patients with compatible clinical and radiologic findings and to ask about occupational exposure to imported dust- or soil-contaminated materials, including maritime containers, especially when travel history to endemic areas can be ruled out. For occupational prevention, control measures should follow the hierarchy of controls and include standardized protocols to minimize aerosolization during container maintenance, worker education and training, periodic health monitoring, and the use of fit-tested respiratory protection during high-risk activities. Surveillance in international shipping settings also might help identify exposure risks and inform strategies to prevent this emerging, potentially underrecognized occupational hazard.



Figure 2. Occupational activities at a maritime container yard in Taiwan, 2025, that might generate airborne *Coccidioides immitis* from soil or dust. A) Red arrows indicate hammers used for hammering of deformed container panels during metal surface repair. B) Green arrow indicates backplash from high-pressure water jet cleaning of interior container surfaces. Images do not depict the patient reported in this case or any specific containers he worked on.

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About the Author

Dr. Huang is a specialist in pulmonary and critical care medicine and director for thoracic medicine in St. Paul's Hospital, Taoyuan, Taiwan. His primary research interests are lung cancer, critical care, and interventional bronchoscopy.

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Southern Tick–Associated Rash Illness in Pediatric Patient, New York, USA, 2025

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Southern tick–associated rash illness (STARI) is a tick-borne disease of unknown etiology characterized by an erythema migrans–like skin lesion. We report a STARI case in New York in a child after an *Amblyomma americanum* tick bite; we detected *Borrelia lonestari*, a disputed cause of STARI, in the tick.

Southern tick–associated rash illness (STARI) is a tickborne disease of unknown etiology. Its hallmark finding is an erythema migrans (EM)–like skin lesion after a lone star tick (*Amblyomma americanum*) bite. Although it is considered self-limited, STARI is difficult to diagnose and manage because of characteristics similar to Lyme disease. STARI is not known to cause any sequelae after rash resolution; the role of antimicrobial drugs in proven cases is therefore undetermined (1).

Previous descriptions of STARI focused on the southern United States. Because lone star tick populations have increased in the mid-Atlantic and north-eastern United States, regions highly endemic to Lyme disease, differentiating STARI from Lyme disease has become a challenge (2). We describe the case of a child evaluated in Long Island, New York, USA for an EM-like skin lesion.

An 8-year-old girl with a history of asthma and allergic rhinitis living in eastern Long Island was brought in June 2025 for evaluation of a recent EM-like lesion. Approximately 2 weeks before her visit, she had a 5-cm annular lesion with peripheral erythema and a central nodule on the upper back (Figure 1). She also experienced low-grade fever, posterior cervical lymphadenopathy, and myalgia. A tick had been removed from the lesion site and stored in a sealed bag 12 days before the rash began. The patient did not receive doxycycline postexposure prophylaxis. Because early localized Lyme disease was suspected, her pediatrician prescribed a 2-week course of amoxicillin. The rash and associated symptoms resolved within 1 week. She was asymptomatic at the time of the follow-up consultation.