Neurologic Symptoms with Lung Pathology on Imaging

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Submitted: 22 February 2021; Accepted: 7 April 2021; Published: 12 February 2022

DOI: https://doi.org/10.22374/cjgim.v17i1.527

Abstract
A patient presented with ataxia with cerebellar dysfunction on examination. After lung imaging revealed a large consolidation, the patient was eventually diagnosed with Legionnaires’ disease during admission. The imaging and case demonstrate how clinicians must include Legionella on their differential diagnosis when there is a combination of respiratory and neurologic pathologies, even when respiratory symptoms are not the presenting concern.

Résumé
Un patient présente une ataxie accompagnée d’un dysfonctionnement cérébelleux révélé à l’examen. Après que l’imagerie pulmonaire ait révélé la présence d’une consolidation importante, le patient a finalement reçu un diagnostic de légionelle lors de son admission. L’imagerie et le présent cas montrent aux cliniciens la nécessité d’inclure la légionelle dans leur diagnostic différentiel en présence d’une combinaison de pathologies respiratoires et neurologiques, même lorsque les symptômes respiratoires ne sont pas la principale préoccupation.

Case
A 51-year-old welder with a history of type 2 diabetes mellitus and active cigarette smoking presented to hospital with a 5-day history of progressive confusion and gait imbalance. His unsteadiness worsened, causing him to walk into objects and eventually fall off a chair while seated. On initial presentation, he was tachycardic (HR 137), hypoxic (93% room air), and febrile ($T_{\text{max}}$ 39.6°C).

The physical exam was significant for negative signs for meningitis and coarse crackles over the left lung zone. A neurologic exam was notable for left upper extremity dysmetria, hypometric saccades, confusion, and slurred speech.

Initial investigations revealed hyponatremia (Na+: 129), leukocytosis (neutrophilic predominance: 13.9), and mild elevation in bilirubin (28), aspartate aminotransferase (57), and C-reactive protein (319). Pertinent normal investigations included troponins, blood cultures, and lumbar puncture studies. Initial imaging included a CT of head, showing no acute intracranial pathology. A chest X-ray [A] and subsequent CT of chest [B] revealed a large consolidation in the left upper lobe (Figure 1).
Neurologic symptoms with lung pathology

Although evidently rare, astute clinicians must consider Legionnaires’ disease in cases where a patient presents with both respiratory and neurologic disturbances, even if respiratory symptoms are not the presenting feature.

Competing Interests
None declared.
This article has been peer reviewed.
The authors have obtained consent from the patient.

Authors’ Contributions
All authors contributed to the conception and design of the work, drafted the manuscript, revised it critically for important intellectual content, gave final approval of the version to be published, and agreed to be accountable for all aspects of the work.

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