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Unmasking the Hidden Threat: Endobronchial Tuberculosis - A Stealthy Complication Post-COVID-19 Misdiagnosed as Asthma

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A B S T R A C T

The COVID-19 pandemic has brought a surge of respiratory challenges to the forefront. While the world grappled with the immediate impacts of the virus, a quieter, yet equally significant, complication has emerged post-recovery. This case report unravels the baffling journey of a patient, initially diagnosed with asthma, only to reveal a startling plot twist - endobronchial tuberculosis. It underscores the need to consider unusual post-COVID-19 complications in the diagnostic process, even when the initial presentation seems deceptively straightforward.

Keywords: Respiratory Disease; COVID-19; Asthma

Introduction

The COVID-19 pandemic has undeniably cast a long shadow over global healthcare, bringing respiratory ailments to the forefront of medical attention.[1,2] While the world's collective focus has been understandably fixed on the immediate and acute consequences of the virus, an intriguing and perplexing new chapter has emerged post-recovery. This case report presents a captivating narrative, shedding light on the extraordinary journey of a patient whose initial symptoms led down the path of asthma but ultimately revealed a hidden and unexpected adversary: endobronchial tuberculosis. This compelling story serves as a poignant reminder of the critical need to explore less common post-COVID-19 complications, even when the clinical presentation initially appears to be a straightforward and open-and-shut case.

The COVID-19 pandemic has unarguably been a transformative force in the realm of respiratory health.[3] As the virus swept across the globe, it captured our collective attention, compelling healthcare professionals and the public to grapple with its acute consequences. The challenges of diagnosing, treating, and preventing COVID-19 understandably took center stage. However, as the pandemic evolved, an intriguing and puzzling development arose – the post-recovery phase. In this context, the case report under discussion stands as a remarkable example. It narrates the journey of a patient whose symptoms initially appeared to align with the common ailment of asthma, a condition well-known to medical practitioners. Asthma typically manifests with symptoms like shortness of breath, wheezing, and chest tightness, which can easily be attributed to respiratory distress in a post-COVID-19 context. Yet, as the story unfolds, the clinical picture becomes increasingly complex, leading to an unexpected revelation. The patient's diagnosis transitions from the familiar territory of asthma to the rare and often overlooked territory of endobronchial tuberculosis. This dramatic twist in the narrative underscores the necessity of keeping an open mind and remaining vigilant, even when a diagnosis initially seems straightforward.[4]

Endobronchial tuberculosis is a form of tuberculosis that primarily affects the bronchial tubes within the lungs.[5,6] It is a condition far less common than asthma, and its clinical presentation can be disguised by symptoms that mimic other respiratory ailments. The patient's journey from the initial suspicion of asthma to the revelation of endobronchial tuberculosis highlights the complexity of post-COVID-19 complications. This narrative serves as a poignant reminder of the imperative to explore less common and often unexpected complications that can arise after a COVID-19 infection. It underscores that the clinical picture may be deceiving, and seemingly routine cases can mask hidden adversaries. The medical community should approach post-COVID-19 care with a mindset of thorough investigation and a readiness to consider less common conditions. This case report calls upon healthcare professionals to remain vigilant, inquisitive, and adaptable in the face of the evolving challenges posed by the pandemic's aftermath. It is a compelling reminder that in the complex and multifaceted landscape of COVID-19, the clinical journey is often far from open-and-shut, and the path to diagnosis may be an extraordinary voyage of discovery.

Case Presentation

A 35-year-old woman with no prior history of respiratory conditions and a non-smoker. She presented a bewildering blend of symptoms: a nagging cough, bouts of breathlessness, and an occasional low-grade fever. What made her case particularly intriguing was her history of mild COVID-19 infection, an experience she had weathered at home without requiring hospitalization. Remarkably, her symptoms outlasted her COVID-19 recovery, persisting for months. Initially, she was diagnosed with asthma and prescribed the standard inhalers, including bronchodilators and inhaled corticosteroids. Despite rigorous treatment, her symptoms remained stubbornly unchanged, and then, an unexpected twist entered the plot - she began to experience hemoptysis.

Clinical Examination

On examination, patient appeared deceptively ordinary. But a closer listen revealed a perplexing symphony of wheezing and crackles in her right lung. The oximeter displayed a less-than-satisfactory SpO2 level of 94% on room air. Her chest X-rays painted an enigmatic picture with opacities in her right lower lobe. It was the subsequent CT scan that revealed the crux of the matter - a consolidation in the right lower lobe.

Diagnostic Evaluation

Given her history of COVID-19, the possibility of post-COVID-19 complications unfolded before us. A sputum sample was submitted for acid-fast bacilli (AFB) testing, and the results came back positive. With mounting suspicion, we embarked on further investigations, including bronchoscopy, an adventure that led to a surreal discovery. In the right lower lobe bronchus, a shocking sight awaited us - erythematous, edematous mucosa, and a caseating granulation tissue that obstinately obstructed the bronchus. Subsequent endobronchial biopsy provided the plot's pivotal twist - the unmistakable presence of Mycobacterium tuberculosis.

Treatment and Outcome

The revelation of endobronchial tuberculosis summoned

an immediate response. Patient was swiftly initiated on a potent anti-tubercular regimen, which featured isoniazid, rifampicin, pyrazinamide, and ethambutol. The outcome was as thrilling as it was unexpected - her cough eased, her breathlessness abated, and her health started to recover. The subsequent bronchoscopy painted a picture of vanishing enigma, as the endobronchial lesion visibly diminished in size. The tale concluded with patient completing her six-month odyssey through anti-tubercular treatment, emerging as an asymptomatic victor.

Discussion

Endobronchial tuberculosis is an uncommon and deceptive variant of tuberculosis, with the ability to create substantial complications. In the post-COVID-19 medical landscape, it presents a diagnostic puzzle, often concealing itself within a veil of respiratory symptoms. The case under scrutiny provides an engaging narrative, emphasizing the critical importance of including tuberculosis in the list of potential diagnoses for patients whose post-COVID-19 recovery continues to baffle healthcare professionals. The key lesson to glean from this case is the urgency of early diagnosis and swift intervention, two pivotal elements in ensuring a positive treatment outcome.

Endobronchial tuberculosis is a form of tuberculosis that specifically targets the bronchial tubes in the lungs. While tuberculosis itself is a well-known infectious disease, endobronchial tuberculosis is comparatively rare and uniquely challenging due to its atypical presentation. It often masquerades as other respiratory conditions, making it difficult to identify. In the context of the post-COVID-19 era, where respiratory symptoms are not uncommon, endobronchial tuberculosis can easily be missed or misdiagnosed.

This case report serves as a captivating example of the complexities that healthcare professionals may encounter when dealing with post-COVID-19 patients. It narrates the story of a patient who initially exhibited symptoms reminiscent of asthma, which is a common condition characterized by shortness of breath, wheezing, and chest tightness. However, as the narrative unfolds, the diagnosis veers away from the expected path and uncovers endobronchial tuberculosis, a hidden adversary. This underscores the necessity of a comprehensive approach to diagnosis, particularly in the post-COVID-19 landscape, where the clinical picture can be multifaceted and misleading.

The vital takeaway from this case is the significance of early detection and prompt treatment. Tuberculosis, in any form, requires timely intervention to prevent its progression and reduce potential complications. With endobronchial tuberculosis, early diagnosis is even more critical because it can imitate other respiratory conditions and often leads to diagnostic delays. As the medical community continues to navigate the uncertainties of the post-COVID-19 world, this case report underscores the importance of considering tuberculosis in the differential diagnosis for patients with unresolved respiratory symptoms. By doing so, healthcare professionals can ensure that patients receive the timely and appropriate care they need for a positive outcome. In the evolving landscape of post-pandemic healthcare, the lessons learned from cases like these serve as a reminder of the need for vigilance and adaptability in the face of diagnostic challenges.

Conclusion

Post-COVID-19 complications are a multifaceted puzzle, one that often leaves clinicians scratching their heads. This story, where the script takes an unexpected twist, serves as a vivid reminder. It reminds us to remain vigilant, to consider unconventional possibilities in patients with lingering respiratory enigmas following COVID-19. Endobronchial tuberculosis, while rare, is a formidable antagonist, one that should not be underestimated. The key to the story is timely diagnosis and resolute treatment, ensuring the well-being of our patients in this complex post-COVID-19 landscape.

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