Oh… It's AIDS

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Background

- Since discovery, there have been over 90 million confirmed cases of COVID-19 infections.
- There are many common findings for COVID-19, including lymphopenia (up to 90% prevalence), and ground glass opacifications on imaging (up to 83% prevalence).
- AIDS especially with PCP PNA may have many similar features, including fevers and respiratory symptoms, elevated inflammatory markers (in particular LDH), and ground glass opacities on imaging.

Case Report

Pt is a 58 year-old male who presented to the emergency department with shortness of breath and a cough that had worsened over 2-3 days prior. Pt has a pmhx of HTN, CKD, and BPH. He also had congestion and fatigue for the past 2 weeks. He also notes increased urination and a headache that are new. Pt reports he is married and monogamous. He had HIV testing 6 months prior when he was undergoing a hand procedure, and results were negative at the time. He did receive 1 unit of blood after the procedure. He denies any hx of illicit drug use. He works as a chef.

On ED presentation, pt was afebrile with a temperature of 98.9°F, BP 161/103, pulse 83, respiratory 26, oxygen saturation at 79% on room air. CBC showed a WBC of 10.3, Hgb 10.8, Plt 395, with 0.3 abs lymphocytes. LA was 0.3. CMP was significant for BUN 75, Cr 7.9. D-dimer 0.92, CRP 92.1, Ferritin 358, LDH 630, all elevated. CXR showed "L>R airspace disease and ground glass opacities." Pt was admitted for hypoxic respiratory failure secondary to COVID PNA, along with acute on chronic renal failure, and was started on ceftriaxone, azithromycin, and supportive care. This continued for 10 days, and patient continued to require supplemental oxygen and continued to spike fevers. He also tested negative for COVID-19 twice during this period.

With that, ID consult was placed. No risk factor or source was ever identified, but rapid HIV was performed and was positive. Viral load of HIV1 was found to be at 470,160. CD4+ count was 4. Pt underwent a bronchoscopy that that was positive for PCP. He was treated with clindamycin and primaquine for PCP PNA, and was discharged with atovaquone 750 mg BID for 12 additional days followed by 1500 mg PO daily for ongoing prophylaxis. Azithromycin 1250 mg daily was prescribed for MAI prophylaxis. Juluca (Dolutegravir and Rilpivirine) 1 tab PO was also started for antiretroviral therapy.

Pt's Cr was initially 7.9, and was attributed to COVID-19 as well. It improved to 4.0 by the time of discharge. Renal biopsy showed FSGS, consistent with HIVAN (HIV-associated nephropathy).

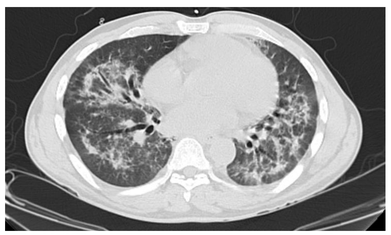
Vitals

Temp	98.1 (36.7)+	97.9 (36.6)+	100.1 (37.8)+	101 (38.3)+	98.8 (37.1)+	99.2 (37.3)+
Temp Source	Temporal+	Other+	Temporal+	Temporal+	Temporal+	Temporal+
Heart Rate	83+	88+	98+	94+	93+	93+
Rhythm	Normal sinus...+	Normal sinus ...		Normal sinus ...	Normal sinus ...	Sinus tachyca...
Resp rate	20+	26+	24+	26+	28	20+
BP (cuff)	123/74+	126/73+	162/89+	132/72+	136/75+	161/92+
MAP (cuff)	90+	90+	113+	92+	95	115+
O2 Flow Rate (L/min)		4+	3	3+	3	12
SpO2	100+	99+	99+	100+	100+	97+

Labs/Imaging

WBC	10.30
RBC	3.48
Hemoglobin	10.8
Hematocrit	31.8
MCV	91.5
MCH	31.0
MCHC	33.9
RDW	13.2
Platelets	395
Lymphocytes (Absol...	0.3

BUN	75.0 *	
Creatinine, Ser	7.9 *	
C-Reactive Protein	92.1	
LDH	630	
Ferritin	358.0 *	
D-Dimer	0.92	
HIV 1/2 ANTIBODY	Reactive *	
Absolute CD 4 Helper	6 *	4 *
HIV-1 RNA by PCR	470160 *	
LEGIONELLA ANTIGEN	Negative *	
NOVEL CORONAVIRUS ...	Negative *	



Noncontrast CT of the chest: Bilateral ground-glass opacification consolidation suspicious for pneumonia.

Gram stain for Pneumocystis carinii (jirovecii) and immunohistochemical stain for Pneumocystis carinii (jirovecii) were performed and were positive.

References

1. Katz MH. HIV Infection & AIDS: Clinicial Findings. In: Papadakis MA, McPhee SJ, Rabow MW. eds. Current Medical Diagnosis & Treatment 2021.
2. Katz MH. HIV Infection & AIDS: Clinical Findings. In: Papadakis MA, McPhee SJ, Rabow MW. eds. Current Medical Diagnosis & Treatment 2021. McGraw-Hill
3. Centers for Disease Control and Prevention. 2019 Novel coronavirus, Wuhan, China. Information for Healthcare Professionals. https://www.cdc.gov/coronavirus/2019-nCoV/hcp/index.html

Discussion

- This is a case that demonstrated the importance of developing a broad list of differential diagnoses.
- Despite that patient having many clinical features associated with COVID-19, he actually had PCP pneumonia.
- The patient's history did not include a known diagnosis of HIV/AIDS, which would have helped to expand the differential diagnosis earlier.
- After multiple negative COVID-19 PCR tests and lack of clinical improvement despite treatment for community acquired pneumonia, the differential diagnosis list was broadened. This led to testing the patient for less common infections, including HIV
- Once the HIV test came back positive and patient was found to have AIDS, PCP pneumonia became the new suspected diagnosis, which required bronchoscopy for confirmation.

Conclusion

Patient had what was presumed a classical presentation for COVID-19 at the beginning of the pandemic, including ground glass opacities on imaging. After failed therapy, our differential was widened and he was found to have PCP pneumonia and newly diagnosed AIDS instead. He improved with subsequent clindamycin and primaquine, and was discharged on atovaquone and anti-retro viral therapy. This underlies the importance of maintaining broad differential despite classical presentations of common diseases.

Patient Care Team

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