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Case Report and Brief Review

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Case Report and Brief Review: Co-infection COVID-19 Virus and Influenza A Virus

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ABSTRACT

We report the case of a 45-year-old male who presented to an emergency department with a complaint of myalgias, chills and sore throat of six day duration. The physical exam was essentially unremarkable. The patient tested positive for COVID-19 virus as well as Influenza A virus. The purpose of this brief review is to discuss what is known about co-infection of COVID-19 and influenza A.

Keywords: Co-infection COVID-19 virus and influenza A virus.

INTRODUCTION

The worldwide pandemic of COVID-19 has seen some cases of the co-infection of COVID-19 virus and influenza A virus. Surprisingly little empiric data exists concerning this co-infection.

Is is of greater concern than COVID-19 alone? The purpose of this brief review is to discuss what is known about co-infection of COVID-19 and influenza A.

THE CASE

We report the case of a 45 year old male who presented to the an emergency department with a complaint of myalgias, chills and sore throat of a six day duration. He denied cough. On physical examination, he looked well. Vital signs were within normal limits and his pulse oximetry was 99%. His physical examination revealed some mild pharyngeal erythema. There was no adenopathy. His lungs were clear. Laboratory testing revealed COVID-19 positive status as well as influenza A positive status. CBC, BMP and rapid strep test results were within normal limits. He was discharged to home with no outpatient prescriptions and with follow up with his primary care physician. Home quarantine for 5 days was recommended at the time of discharge. A phone call follow up was done at 3 days and at 10 days post discharge by the treating ED physician. At the time of those calls, the patient stated that he felt well with no symptoms.

DISCUSSION

A review of the literature identified no clear concensus concerning the

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treatment of patients with co-infection with COVID-19 and influenza A. The most central question is whether co-infection has a higher risk of a poor outcome.

Literature on the side of no increase in concern with co-infection

- Yue's 2020 single-center study found that co-infection of COVID-19 and influenza A did not appear to convey a higher risk than COVID-19 infection alone. They did conclude that co-infection with influenza B appeared to convey a higher risk [1].
- Cheng et all published a retrospective cohort study in 2020 of co-infection of COVID-19 and influenza A and found no effect on outcome versus COVID-19 infection alone [2].
- Akhtar et al reported the results of a hospital based study (2021) involving nine tertiary hospitals in Bangladesh. They found that co-infection of COVID-19 and influenza A did not convey a poorer outcome. In fact, they concluded that in their cohort, co-infection conveyed less disease mortality [3].
- Guan et al published a systematic review and meta-analysis of co-infection of COVID-19 and influenza A. Their study, published in 2021, concluded that no additional risk was conveyed [4].
- Pawlowski et al (2022) looked at data from the Mayo Clinic hospitals. They found that coinfected patients were relatively young (mean age: 26.7 years) and had fewer serious comorbidities compared to monoinfected patients, with no significant differences in 30-day hospitalization, ICU admission, or mortality rates. Co-infected patients in their cohort had higher rates of nasal congestion, cough, fever/chills, headache, myalgia/arthralgia, pharyngitis, and rhinitis [5].

Literature on the side of more concern with co-infection

- Xiang et al reported two cases of co-infection of COVID-19 and influenza A along with a review of the then-existing literature (2021) and concluded that such co-infection may convey a slightly higher risk in admitted patients, but that the lenght of stay was similar [6].
- Garg et al looked at a national United States sample of co-infection of COVID-19 and influenza A. The sample was a matched propensity analysis. They found that influenza-positive (and COVID-positive) patients had higher mean hospitalization cost (USD 129,742 vs. USD 68,878, p = 0.04) and total length of stay (9.9 days vs. 8.2 days, p = 0.01), higher odds of needing mechanical ventilation (OR 2.01, 95% CI 1.19-3.39), and higher in-hospital mortality (OR 2.09, 95% CI 1.03-4.24) relative to the COVID-positive and influenza-negative cohort [7].

CONCLUSION

Opinions concerning the risk of co-infection vary in the literature, with no definitive consensus at this time. Further research in both hospitalized and discharged patients is needed. The clinician must continue to use clinical judgement.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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