Simultaneous Human Granulocytic Anaplasmosis and COVID-19 Infection in an Immunocompromised Patient After Exposure to Deer Carcasses

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Introduction

• While *Anaplasma phagocytophilum* is primarily transmitted to humans via ticks, there have been cases of infections following interactions with white-tailed deer without preceding tick bites.

• It has been suggested that COVID-19 may also be transmitted to humans from deer.

Case

• 56-year-old male with PMH of sarcoidosis (on chronic prednisone and infliximab), acquired asplenia, and treated pulmonary cryptococcosis.

• Presented one week after being treated for COVID-19.

• Temp 103.4F, BP 76/45, HR 110.

• Received 3.5L lactated ringers then started on Vancomycin, cefepime and norepinephrine.

• CT CAP w/ contrast: Absent spleen but no identifiable source of infection.

• Blood/urine cultures and cryptococcal antigen negative.

• The patient reported recent avocation of hunting deer with bow and arrow without the use of protective gear but denied recent tick bites.

• IgM/IgG *A. phagocytophilum* positive

• 10-day course of doxycycline with resolution of his symptoms.

Discussion

• Most patients infected with *A. phagocytophilum* have mild, non-specific symptoms.

• Severe infections can occur and may result in septic shock and death.

• Immunosuppression and asplenia are risk factors for severe disease.

• Suspected our patient developed HGA after handling deer without the use of protective equipment.

• There have been cases of HGA in deer hunters/butchers who did not have preceding tick bites.

• Infection may occur via direct contact with infected blood or by inhaling aerosolized particles.

• It has been shown that deer can be infected with coronavirus, and it is likely that they can transmit the virus to humans.

• It is possible that our patient acquired both infections from handling deer carcasses.

Conclusion

• Anaplasmosis should be considered in an immunocompromised patient who presents with severe illness following exposure to deer, even in the absence of tick bites.

References


