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Journal of Pharmaceutical Toxicology

A case of Haemophagocytic Lymphohistocytes (HLH) and presumed COVID 19

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Biography

Swetha Byravan completed her undergraduate studies at University Birmingham in 2016. Since graduating she has worked towards completing her medical training and has achieved her MRCP. She is a budding rheumatologist and hopes to start her rheumatology training in the following year.

Abstract

Background: It is known that COVID-19 can cause an intense cytokine mediated immune response leading to various complications such as acute respiratory distress syndrome. However, one extreme of such a strong immune response is Haemophagocytic Lymphohistocytosis (HLH). It is emerging that COVID-19 can also lead to secondary HLH.

Case presentation: A 20-year-old male with no previous medical history presented with a week's history of abdominal pain, fever, diarrhoea and vomiting. Lactate was raised at 4 so a CT abdomen-pelvis was arranged which revealed hepatosplenomegaly, ascites and bilateral axillary lymphadenopathy. Ferritin was raised at 8645 on presentation but rose to >40,000 at the peak, LDH were 491, ESR 2 and CRP 90. A diagnosis of HLH was suspected and confi rmed after a bone marrow aspirate which revealed haemophagocytosis of neutrophils and erythroid cells. The rest of the autoimmune, vasculitic and viral screen was negative however underlying infection was suspected due to raised CRP. COVID-19 antigen swabs were done twice, but both came back as negative however clinically the virus was highly suspected. He received etoposide for treatment of HLH but the patient developed an acute oxygen requirement and bilateral pulmonary infi ltration that was highly suspicious of COVID-19. The patient acutely deteriorated and unfortunately died.

Discussion: Secondary HLH has also been found in patients with Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). It is likely that it develops in patients in COVID-19 too as all three viruses trigger a similar cytokine mediated storm. It is probably present in more patients than we know with COVID-19 and likely to contribute to prognosis and mortality.

Conclusions: Recognising HLH is a potential complication of COVID-19 especially in those who are young with the ability to mount a strong immune response at an early stage could affect outcome by initiating early treatment.

Citation: Swetha Byravan, *A case of Haemophagocytic Lymphohistocytes (HLH) and presumed COVID 19*, RWPS 2020, Rheumatology-Immunology,Women's Health and Pharma Science, September 21, 2020, Webinar