

Clinical-Medical Image

Hemophagocytosis Secondary to Sars-CoV-2 in a Young Patient Presenting with Acute Liver Failure

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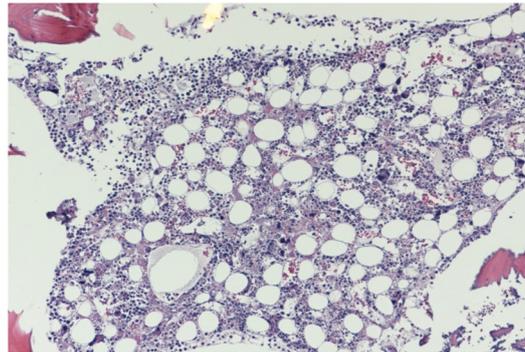


Figure 1: Bone marrow aspirate with diffuse macrophage infiltration.

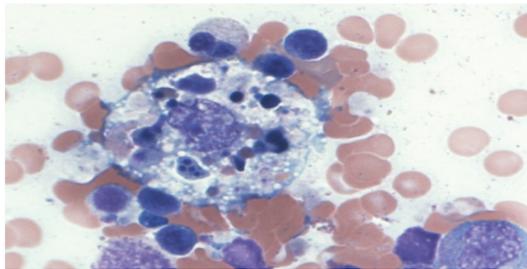


Figure 2: Macrophage with numerous engulfed nucleated and mature RBCs along with lymphoid cells, a classic histomorphology image of HLH.

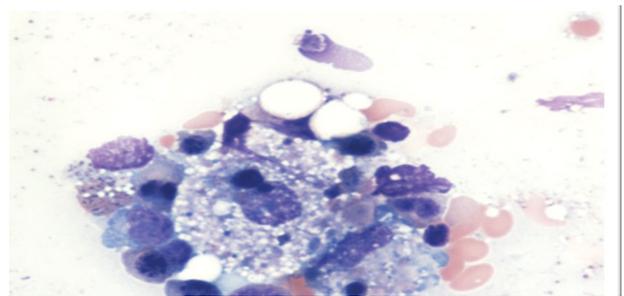


Figure 3: Pair of hemophagocytes attached to each other.

Clinical Image

A 24-year-old man presented with a 10-day history of fever and headache, progressing to shortness of breath, abdominal pain, abdominal distension, oliguria, and diarrhea. Physical examination was significant for scleral icterus, tachycardia, and diffuse abdominal tenderness with hepatosplenomegaly. Work up revealed platelets 55 K/mcL, AST 3128 units/L, ALT 1049 units/L, bilirubin 10 mg/dL, ferritin >50,000 mg/mL, fibrinogen 301 mg/dL, triglycerides 1152 mg/dL and peak INR of 3.4. A non-reactive SARS-CoV-2 RNA PCR resulted twice but he tested positive for CoV-2 antibody one month after presentation. Clinical suspicion of Hemophagocytic Lymphohistiocytosis (HLH) led to urgent bone marrow biopsy. Figure 1, bone marrow aspirate, showing hypocellularity for age (40%) with increased macrophage infiltration. Figure 2 demonstrates a single macrophage engulfing multiple nucleated erythroid progenitors, mature erythrocytes, and lymphoid cells. Figure 3 shows a pair of hemophagocytes attached to each other. He received early therapeutic intervention, per HLH-94 protocol with dexamethasone 10 mg/m² IV daily for 14 days, IVIG 1 g/kg daily for 5 days, weekly etoposide infusion 75 mg/m² and ruxolitinib 10 mg oral twice daily. He improved clinically with complete resolution of liver associated abnormalities [1].

Keywords: Tachycardia; Hemophagocytic Lymphohistiocytosis

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Declaration of Interests

The authors declare that they have no competing interests.

References

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