Oral Manifestations of Hemophagocytic Lymphohistiocytosis/Pancytopenia - A Case Report

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Abstract

Hemophagocytic Lymphohistiocytosis (HLH) is a life-threatening disorder characterized by uncontrolled activation of lymphocytes and macrophages resulting in hypercytokinemia, immune dysregulation, and injury of multiple organ systems. HLH can cause severe neutropenia if left untreated, and patients often die from bacterial or fungal infections. Only a limited number of cases have been published in the literature to this date. We present a case of a female diagnosed with HLH and pancytopenia concomitant with long-term bilateral oral ulceration, sloughing of gingival tissue, and increasingly painful ulcerations on buccal mucosa at the level of the occlusal plane.

Background

- Hemophagocytic Lymphohistiocytosis (HLH) is a rare heterogeneous group of disorders resulting from multisystemic inflammation caused by hyperactivated macrophages and lymphocytes that produce large amounts of cytokines.
- HLH leads to excessive cytokine production, subsequent immune dysregulation, and tissue damage.
- HLH is underrecognized and often confused, especially in adults, with macrophage activation syndrome, severe sepsis, or leukaemia.
- HLH predominantly occurs in children with a prevalence of 1 in 800,000 cases per year.
- Although the incidence in adults is not known precisely, it is thought that many unexplained severely ill adult patients with multiple organ failure and high fever might have had HLH.
- HLH manifests as high fever and pancytopenia, resulting in enlargement of organs such as the liver/spleen and liver dysfunction.
- Treatment aims to suppress the hyperinflammatory state and immune dysregulation that leads to life-threatening organ damage and susceptibility to deadly infections. It is also essential to kill infected antigen-presenting cells to remove the stimulus for ongoing immune activation.

Case Presentation

A 45-year-old female, with a medical history significant for HTN and acid reflux, presented with sudden fever and malaise, at her PCP office. Peripheral blood work revealed low white blood cell count, which prompted a bone marrow biopsy. The following day, the patient experienced sudden pain on her lower left thorax and 103.9F fever on an ER visit. The patient was admitted at Vidant/ECU Medical Center due to leukopenia, high liver enzymes, and difficulty to maintain stable blood pressure. During her hospital stay, she developed soreness on her cheeks. Bilateral soft and tender ulcers seen on buccal mucosa. Fifteen days after the initial dental exam, vomiting bile was noted. Patient developed jaundice 2 weeks post initial diagnosis.

Discussion

- Patients with underlying pancytopenia may exhibit a wide spectrum of oral manifestations of the disease. However, deficiency of white blood cells are notorious for inducing the most debilitating oral manifestations.
- The precise diagnosis can be challenging to achieve, because different conditions that can appear may share clinical features.
- Acute oral ulcerations may present with nonspecific or subtle clinical findings. A comprehensive awareness of the differential diagnosis of acute oral ulcers, whether they be isolated or recurrent, is significant when evaluating affected patients. After carefully listening to the patient’s history and performing a thorough physical examination, additional laboratory investigations may be required for definitive diagnosis. When ulcers do not respond as expected to appropriate therapies, reevaluation and possibly repeat culture or biopsy are necessary.
- HLH may be inherited (primary) or may be secondary to sepsis, malignancy or rheumatologic condition. Based on our patient’s clinical symptoms and susceptibility to infection, her condition appears to be secondary HLH.
- When a known genetic defect is not present, the diagnosis of HLH is still made on a constellation of clinical features and good clinical judgment. Rapid diagnosis is crucial, as early therapy with immunosuppressive agents and/or proapoptotic chemotherapy can be life-saving. Achieving remission via suppression of the triggering disease is crucial for a favorable outcome. However, at the time, information regarding follow-up and treatment are unavailable.

Conclusion

The findings of this case report are consistent with those in the literature concerning clinical presentation for HLH. The patient appears to have secondary HLH associated with underlying immune disorders and/or infection. Typically, HLH is presented in secondary cases and may not be visible until late in the disease progression, resulting in a dismal prognosis. Overall, such cases require careful listening to the patient’s history, performing a thorough physical examination, and additional laboratory investigations for a definitive diagnosis.

References and Contact Information