Life-threatening Capillary Leak Syndrome in an Adult with Refractory Acute Myeloid Leukemia during Allogeneic Transplantation: a Case Report and Review of Literature

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Introduction

CLS is one of the life-threatening early complications which usually occur during hematopoietic stem cell infusion or hematopoietic reconstruction process in addition to gra -versus-host-disease (GVHD) and infection [1]. It is characterized by unexplained episodic capillary hyperpermeability, which causes the shi of uid and protein from the intravascular space to the interstitial space [2]. However, since the nonspeci c signs and symptoms of CLS and the overlapping manifestations of early complications a er transplantation, CLS tends to be easily confused with other early complications for clinicians. In this case, we report an adult with refractory acute myeloid leukemia who developed fatal CLS during allo-HSCT with review of the literature.

Case Report

A 27-year-old male was rst admitted to our hospital in August 2014 with complaints of chills and fever. He exhibited obvious pain and swelling of gastrocnemius and activity abstacle. Peripheral blood counts revealed white cell counts of 29.9 × 10^9/L, hemoglobin lever of 89g/L, platelet counts of 179 × 10^9/L. Bone marrow was hypercellular exhibiting in ltration with 30% blast cells comprising myeloblasts and promonocytes. Immunophenotype analysis showed 54% abnormal cells which were positive for CD13, HLA-DR, CD11b, CD11c, CD33, CD14, CD64 and CD15, and weakly positive for CD34 and MPO. e overall ndings were consistent with acute myeloid leukemia. G-banding revealed 46, XY. Moreover, genetic testing revealed positive for dupMLL fusion. He did not respond to “HA”(HHT 4 mg/d × 7d, Ara-c 0.2 g/d × 7d) and subsequent “IA” (IDA 30 mg d1, 20 mg d2-3, Ara-c 0.2 g/d × 7d) induction chemotherapy.

Salvage therapy consisted of DAC (decitabine) (20 mg/m^2/d × 5d), Ara-c (cytarabine) (10 mg/m^2/d × 2d) and Ara-c (10 mg/m^2 every 12 h × 3d) was planned. Because no full HLA-matched donor was readily available, a combination of a haploidentical stem cell gra and an unrelated umbilical cord blood unit was scheduled. e BU/CY-based conditioning regimen consisted of Me-CCNU 250 mg/m^2 (day -10), Ara-c 4 g/m^2

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edema and severe hypotension along with hypoproteinemia. Case Re
with refractory acute myeloid leukemia, was treated with a haploider
unrelated umbilical cord blood unit. The patient developed fatal CLS du

to manage any incidence of CLS.

perfusion of major organs. CVP was closely monitored. Clinically, the patient progressively improved. However, he redeveloped severe edema and anuria on day 30. BNP, liver enzymes and serum bilirubin lever continued to increase. Neutrophil engra ment was achieved on