



A Case of Acute Myeloid Leukemia in Pregnancy: Striking the Balance Between Maternal and Fetal Health



Objective

This case study outlines the treatment of a pregnant woman diagnosed with Acute Myeloid Leukemia at 26 weeks, highlighting the multidisciplinary approach and the challenges of balancing maternal health, fetal prematurity, and chemotherapy side effects.

Background

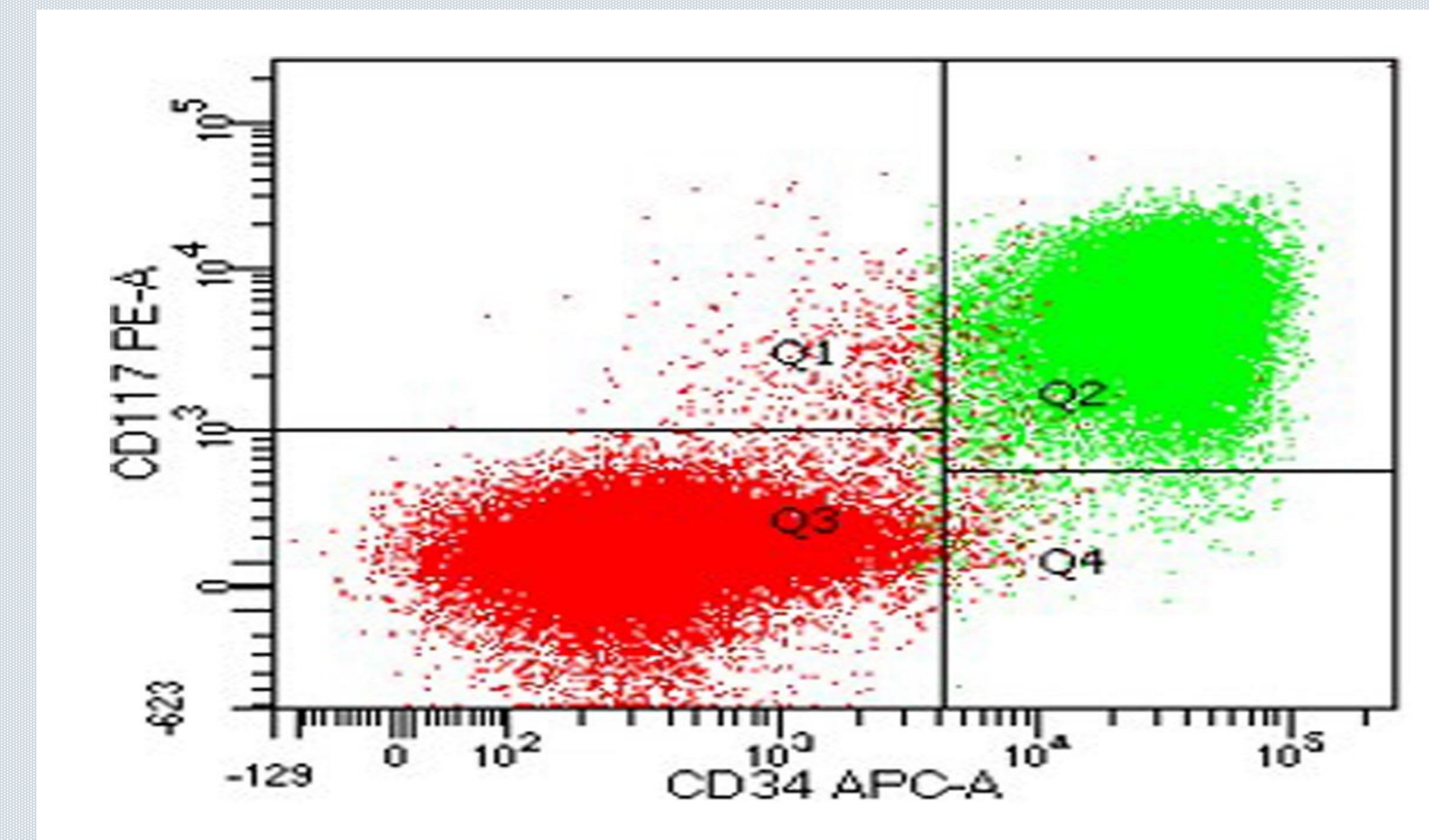
A previously healthy woman in her early 20s, pregnant for the first time, was referred at 26+ weeks gestation with a 3-week history of pruritic rash on her legs, fever, anemia (Hb 8 g/dL), leukocytosis ($19 \times 10^9/L$), and thrombocytopenia ($13 \times 10^9/L$). Initial infection workup was negative, but repeat CBC showed 40% blasts. She was admitted under oncology, with OBGYN and neonatology teams involved. Bone marrow biopsy, flow cytometry, and genetic testing confirmed Acute Myeloid Leukemia.



Flow cytometry studies performed on bone marrow demonstrate an atypical population with blast and monocytic components (highlighted in green and red, respectively), comprising the majority of cells. Contributed by Ramya Gadde, M.D. and Rose Beck, M.D., Ph.D

Course

The patient was managed supportively with blood products, antimicrobials, and hydroxyurea. After MDT input, induction chemotherapy was delayed to allow the pregnancy to continue until 31 weeks, with close maternal and fetal monitoring. At 31+ weeks, she underwent elective cesarean after corticosteroids and magnesium sulfate. A 1.5 kg baby girl was delivered with good APGAR scores. Induction chemotherapy (7+3 protocol with cytarabine and daunorubicin) began on postpartum day 14. Bone marrow biopsies on days 14 and 28 showed morphological remission. This was followed by high-dose cytarabine consolidation (total cycles not specified). Her chemotherapy course was complicated by *P. vivax* malaria, neutropenia, and phlebitis, all managed supportively with antimalarials, antibiotics, filgrastim, and blood products. Follow-up to date is promising for both mother and baby.



Acute Myeloid Leukemia (AML) accounts for over two-thirds of leukemia cases in pregnancy, with an incidence of 1 in 75,000–100,000. Managing pregnancy-associated AML (P-AML) is challenging due to limited data and the risks of treatment-related complications, such as coagulopathy, fetal loss, or congenital anomalies. According to 2015 British guidelines, first-trimester AML carries the poorest prognosis, and early termination is often recommended to avoid delays in maternal treatment. In the second and third trimesters, chemotherapy with daunorubicin and cytarabine is considered safe and should begin promptly, with close fetal monitoring. Cesarean delivery may be planned before or after chemotherapy based on clinical stability.

Discussion

Conclusion

Timing of delivery and Chemotherapy decisions should be made by a multidisciplinary team, considering drug type, timing, pregnancy stage, and maternal-fetal health. A national registry is recommended to support research and guide future care.

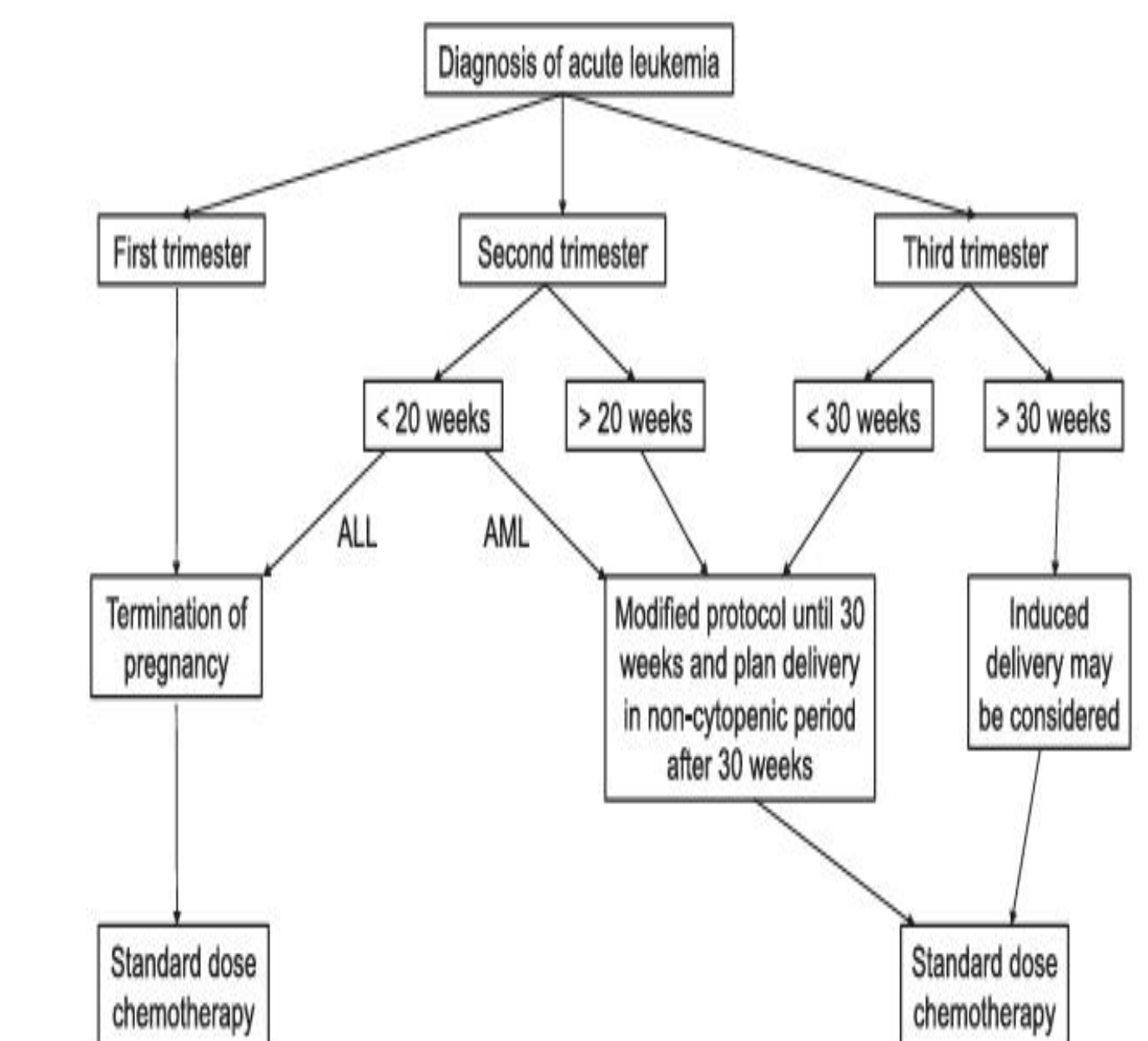


Figure 1. Proposed management of acute leukemia during pregnancy.

2015 BSCH guidelines for managing AML in pregnancy

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