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APML and Pregnancy: A Clinical Dilemma

Rushi Gottimukkala MD, Matthew Sikora MD, Marcos Izquierdo MD

Obstetric Anesthesiology, Department of Anesthesiology, MetroHealth Medical Center, Cleveland OH 44113

- Acute promyelocytic leukemia is rare in pregnancy and carries medical and ethical considerations
- Recommendations for parturients include
 - Initiation of treatment without delay unless baby can be delivered safely prior to treatment
 - If diagnosed in the first trimester, elective termination should be discussed as a successful pregnancy is unlikely and risky for mom
 - Induction of labor 3 weeks post chemo to avoid fetal myelosuppression
 - Obtaining a CBC prior to neuraxial to rule out significant thrombocytopenia and/or neutropenia

Ali S, Jones GL, Culligan DJ, Marsden PJ, Russell N, Embleton ND, Craddock C; British Committee for Standards in Haematology. Guidelines for the diagnosis and management of acute myeloid leukaemia in pregnancy. Br J Haematol. 2015 Aug;170(4):487-95. doi: 10.1111/bjh.13554. Epub 2015 Jun 17. PMID: 26081614.

Case

- 26yo G1P0 at 22 weeks who presented with abdominal pain
 - Her labs revealed hematologic derangements including DIC, anemia, neutropenia with promyelocytes and blasts, prompting a heme/onc consult
 - Her full workup indicated APML and her admission was complicated by differentiation syndrome, acute hypoxic respiratory failure and sepsis requiring MICU care
- In the MICU, after discussions with OB, MFM, MICU, Heme/Onc, ethics team and family, the patient desired to pursue treatment regardless of pregnancy. She agreed to receive the standard chemo regimen
 - The patient's treatment was initiated with all-trans retinoic acid, dexamethasone and blood products for coagulopathy
 - After DIC resolution, daunorubicin was added to her regimen
 - The patient's coagulation profile and hematopoiesis normalized
- Induction was scheduled at 34 weeks, at which time ultrasound indicated breech presentation
 - Delivery was by cesarean section under spinal anesthesia
 - The procedure was uncomplicated and both mom and baby did well

Discussion

- This patient underwent an uncomplicated delivery due to the dedicated work of the multidisciplinary team
- Ethical dilemma
 - Pregnancy is a vulnerable time for mom and her family. The addition of a complex diagnosis with a poor prognosis can be challenging to manage. The decision to treat despite the risk to baby can be difficult for parturients to accept
 - When managing ethically challenging patients we recommend early discussion, understanding the patient's decision, and ensuring the patient's wish is the focal point of care
- Anesthesia's role during delivery
 - For anesthesia, every effort should be made to optimize the patient for neuraxial and should be included in the discussion of optimal delivery time