CASE REPORT

Postpartum Diagnosis of AML-M3: A Rare Case Report

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Abstract:

A 27 year old female gravid 2, para 1, presented at 39 weeks of gestation with pain in abdomen going in for labour, and delivered healthy baby. The patient later had post-partum haemorrhage with Prothrombin Time (PT) 10min, platelet count 70,000 cells/cumm. Peripheral smear showed shift to left with myeloblasts, promyelocytes. The diagnosis of Acute Myeloid Leukemia (AML) was given and advised for bone marrow examination. The diagnosis AML-M3 was confirmed by marrow study. Unfortunately, patient went in for Disseminated Intravascular Coagulation (DIC) and died 2 days after the diagnosis.

Keywords: Pregnancy, Postpartum Haemorrhage, Disseminated Intravascular Coagulation, Acute Promyelocytic Leukemia, Obstetric Management

Introduction:

Acute leukemia is a rare condition occurring during pregnancy, complicating 1 in 1, 00, 000 pregnancies [1]. An even rarer event is Acute Promyelocytic Leukemia (APL) in pregnancy, with < 60 cases in the literature [2, 3]. APL, is Acute Myeloid Leukemia (AML) M3 type of French-American-British (FAB) classification. APL comprises 10% of all AML cases and has most favourable long-term prognosis with 80% of patients being cured.

Case Report:

A 27 year-old female gravid 2, para 1 presented at 39 weeks of gestation to our hospital with pain in abdomen going in for labour, and delivered a healthy baby weighing 2.8kg. The patient later had uncontrolled uterine bleeding which did not stop with clinical management of blood transfusions, anticoagulant treatment etc. Blood sample was sent for platelet counts and Prothrombin Time (PT). On investigation, platelet count was 70,000 cells/cumm of blood on cell counter analysis and PT was 10 min, control being 12.34 seconds. Peripheral smear was done to confirm platelet counts which accidentally showed increased total count (33,500cells/cumm) with many blasts showing cytoplasm with eosinophilic granules, many Auer rods and nucleus having 1-3 nucleoli.

Differential Count -

Myeloblasts-42%, Promyelocytes-07%, Myeolcytes-05%, Metamyelocytes-11%, Band forms-07%, Neutrophils-02%, Lymphocytes-26%. The bone marrow was advised. The bone marrow aspiration was done and AML–M3 was confirmed. Other investigations like electrolytes, urea, creatinine, blood sugar were normal. Unfortunately, patient died due to severe blood loss going in for Disseminated Intravascular Coagulation (DIC) after 2 days. Blood sample of child tested was normal.

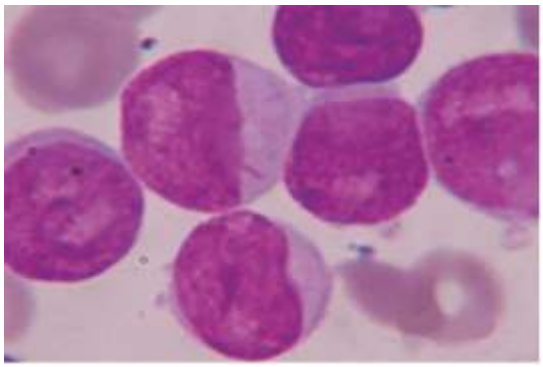

Fig. 1: Bone Marrow Aspiration showing Auer Rods in AML- M3

Discussion:

APL is characterised by a bleeding diathesis at presentation, which accounts for early fatal outcomes seen in upto a 10th of all APL diagnosis. Post Partum Hemorrhage (PPH) is the most important single cause of maternal death in the world estimating to 1, 50,000 maternal deaths annually, mainly in developing countries [4]. DIC is a common sequela of APL. Approximately 3% of newly diagnosed patients will die of haemorrhage before treatment is started which happened in our case. Early administration of All-Trans Retinoic Acid (ATRA) has been associated with dramatic improvements in DIC-related Coagulopathy [5]. There are already reported obstetric cases in which PPH was the first signs of APL [1, 4]. APL should be considered in postpartum women with DIC, when DIC is prolonged even after prompt delivery and adequate anti-DIC treatment [6] which was missed in the present case. Life threatening haemorrhage usually occurs in the gut or the subarachnoid space, but uterine hemorrhage may also cause death. Best outcome of APL can be obtained with ATRA followed by conventional chemotherapy [7]. In the first trimester, the risk of abortion and fetal malformations is high. Successful maternal and fetal outcome with standard combination chemotherapy in second and third trimester have been reported [8, 9]. Unfortunately, our patient deteriorated rapidly in spite of immediate supportive treatment and died before ATRA could be started.

Conclusion:

To conclude, timely diagnosis of APL during pregnancy allows a good outcome for both mother and her baby. Routine antenatal visits and blood investigations will decrease the incidence of fatal outcomes. It is a team work of haematologists and obstetricians for better clinical treatment. Obstetricians should never forget a rare possibility of acute leukemia in pregnancy as a cause of PPH when other causes are excluded. APL is considered an oncologic emergency which has to be diagnosed early and treated promptly.

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