E-Poster

Chronic Myelogenous Leukemia complicating pregnancy- a successful outcome while on Tyrosine Kinase Inhibitor (Imatinib) treatment

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Introduction

Chronic Myelogenous Leukemia (CML) is a heamatological malignancy, rarely co-exist with pregnancy. Imatinib is treatment of choice for CML with high degree of teratogenicity. Treatment withdrawal during pregnancy may lead to recurrence. Therefore, fine risk and benefit balancing is essential to manage CML co-exist with pregnancy. Hydroxyurea is a reasonable alternative with less teratogenicity, but high disease recurrence and high chance of pre-eclampsia.

Clinical Description

31-year-old primigravida presented at 6 weeks of POA to Ante natal clinic following an unplanned pregnancy. She has been previously diagnosed to have CML with 18.4% of quantified level in Philadelphia chromosome. Imatinib was started following diagnosis to achieved haematological, cytogenetic and molecular remission. The BCR-ABL quantity was reduced to 0.011% after 8 months of treatment prior pregnancy. Since the molecular remission achieved with low level of BCR-ABL, Imatinib was withheld at 6 weeks of pregnancy and Hydroxyurea was started. Her pregnancy was managed in tertiary care unit with close surveillance over disease remission, foetal anomalies, foetal growth and for pre-eclampsia. Her BCR-ABL levels and peripheral blood films were regularly monitored. There was slight rise (0.12% to 2.96%) of BCR-ABL level noted following six months of treatment with Hydroxyurea. Emergency caesarian section was carried out on her POA of 39 due to failed induction following pre-labour rupture of membranes. Baby was healthy with birth weight of 3.3 kg. Newborn's haematological, cytogenetic parameters and physical examination were normal. Mother was re-started with Imatinib within first week of post-partum following breast-milk suppression. Post-partum period up to 6 months was uneventful without disease recurrence or Imatinib associate resistance.

Discussion and Conclusion

Incidence of CML is 15 % from all leukemia occurred in adults. The incidence is very low during pregnancy. The therapeutic options available for CML are Tyrosine kinase inhibitors (Imatinib), Hydroxyurea (DNA synthesis inhibitors), alpha-interferon, leukapheresis and stem cell transplantation. Imatinib is tyrosine kinase inhibitor that inhibits abnormal BCR/ABL tyrosine kinase created by Philadelphia chromosome. It is a pregnancy category-D drug. Imatinib can be secreted in to breast milk up to 10% of systemic dose. Hydroxyurea is a DNA inhibitor, with incidence of teratogenicity effects and hematological complications are not reported. Following discontinuation there may be associated resistance for imatinib, therefore, optimum risk and benefit stratification is essential to managing CML in pregnancy. Large scale studies and case series analysis are best possible options for CML management in special clinical scenarios especially in pregnancy.