CASE REPORT

“SUCCESSFUL PREGNANCY OUTCOME WITH CHRONIC MYELOID LEUKEMIA (CML) – A RARE CASE REPORT”

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INTRODUCTION: Chronic myeloid leukemia (CML) is a clonal myelo proliferative disorder that occurs as a result of a reciprocal translocation between chromosome 22 and chromosome 9, or the Philadelphia translocation. The incidence of CML associated with pregnancy is estimated to be 175000¹. There is a risk of leukostasis, as well as the risk of placental insufficiency with consequent sub-normal fetal birth weight, increased chances of fetal prematurity/IUGR, and increased mortality if CML is left untreated for full duration of the pregnancy.

CASE REPORT: A 24-year-old women, a known case of CML and taking anticancer drugs regularly for the past 2 years; developed amenorrhea and consulted a private practitioner who diagnosed her pregnancy. He advised to go for MTP, but she herself decided to continue the drugs as well as pregnancy.

She reported in our ANC at 14th week of gestation. On her clinical examination, she was found to have an intrauterine pregnancy of 14th week gestation and hepatosplenomegaly (liver—4cm, spleen—18 cm). On her routine investigations, Peripheral blood (PB) findings were hemoglobin 10.9 g/dL; white blood count (WBC) 150.1×10⁹ /L with 1% myeloblasts, 1% promyelocytes, 2% myelocytes, 15% metamyelocytes, 17% bands, 83% neutrophils, 10% lymphocytes, 1% monocytes; and platelet count 367×10⁹/L. Liver and renal parameters were in the normal range. The lactate dehydrogenase (LDH) level was 488 mU/mL (normal range 50-107 mU/mL) and the neutrophil alkaline phosphatase (NAP) score was 109 (control 255). A bone marrow (BM) examination revealed marked hypercellularity with 4.5% myeloblasts, 7.5% promyelocytes, 13.5% eosinophils, 1.5% basophils and 7% erythroblasts. Megakaryocytes were also increased in number. Urine, Blood chemistry and serological test for STD, HIV, HBsAg were normal. Her ultrasonographic study revealed normal dimensional parameters for gestational age and no detectable congenital fetal anomaly at 14th weeks.

She was on Tab. Gleevac (Imatinib) 400mg 1 OD, Tab. Ciplicor (allopurinol) 100 mg 1 OD, Tab. Rpure (rabepira) 1 OD, Tab. Myelostat (hydroxyurea) 500 mg 2 BD throughout her pregnancy. On regular ANC checkups no subjective or objective abnormality was detected on clinical examinations as well as repeat investigations, though she constantly complained of easy fatigability throughout her pregnancy. Complete TT immunization was done. Elective induction of labor was started on completion of 38 weeks of gestation and Patient had full-term normal vaginal delivery without any complication of 3rd stage of labor. Her puerperium was uneventful. An alive, healthy male child weighing 2.96 kg with Apgar score 8/10 and 9/10 at 1 and 5 minutes was born who had no congenital anomalies. The infant's detailed investigations of CVP, urine and sonological examinations were normal. She was advised to avoid breast feeding. Follow up of child revealed a healthy child with normal growth pattern. Baby's blood reports are normal. The patient was asked

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to resume tab. imatinib 400 mg per day. The patient is now in hematological response. The baby's growth and development have been normal till date (1 year).

DISCUSSION: The pregnancy of a patient with a neoplastic disease requiring cytotoxic treatment poses a very difficult therapeutic dilemma. Around less than 50 cases of CML with pregnancy have been reported in the literature of which less than 30 patients have had uneventful pregnancy delivering healthy babies^{2,3,4}. The effects of cytotoxic drugs on the fetus may be studied from two perspectives, namely immediate effects, such as abortive and teratogenic effects, and late effects such as gonadal, endocrinological disorders, growth and development problems^{2,3,4}. The successful management of CML during pregnancy by using leukapheresis⁵, hydroxyurea, and interferon is noted. The effects of imatinib on fertility, pregnancy, and lactation are known mostly from animal studies. According to that, patients who are pregnant or become pregnant while on therapy with imatinib should be appraised of the potential hazards to the fetus⁶.

CONCLUSION: The use of imatinib can be considered for treatment of CML as early as the first trimester of pregnancy and can be successfully continued throughout pregnancy. Further studies are required.

KEY WORDS: Chronic Myeloid Leukemia, Pregnancy.

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Image I: ULTRASONOGRAPHY AT 14TH

Image II: ULTRASONOGRAPHY AT II TRIMESTER

Image III: NEWBORN

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