Pregnancy Outcome of Sickle Cell Disease Women

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Objective: To evaluate the maternal and fetal outcome in pregnant women with sickle cell disease (SCD) compared with healthy women.

Setting: Department of Gynecology and Obstetrics, Salmaniya Medical Complex, Bahrain.

Design: Retrospective Case-Control Study.

Method: Patients with SCD who delivered from 1 January 2011 to 31 December 2012 were reviewed. The matched controls had neither SCD nor sickle cell trait.

Result: Patients with sickle cell disease required significantly more admissions during their pregnancy, 135 (78.4%) compared to the control, 74 (37.4%). One hundred thirteen (65.6%) SCD patients were admitted with vaso-occlusive crises and 18 (10.4%) with hemolytic crises. SCD patients had a significant decrease in parity, gestational age and birth weight compared with the control group. SCD patients had a significant rise in the incidence of urinary tract infection, but there was no difference between both groups in the incidence of hypertensive disorders, mode of delivery and perinatal outcome.

Four (2.3%) patients with SCD died; two (1.2%) patients died due to pulmonary embolism, one (0.6%) due to acute chest syndrome and one due sepsis and disseminated intravascular coagulopathy.

Conclusion: Sickle cell disease is hazardous both to the mother and the fetus and is associated with high maternal morbidity and mortality.


Sickle cell disease (SCD) is common hemoglobinopathy in Bahrain. It continued to be a major health problem in spite of the decline of its incidence from 2% to reach 0.4%. The incidence of SCD amongst pregnant women in Bahrain has also dropped from 0.8% to 0.5%; however, SCD continued to be the leading cause of maternal deaths amongst Bahraini women.

SCD is associated with high significant maternal morbidity. Villers et al revealed that these women are at increased risk of medical complications, such as thrombo-embolism, stroke, pulmonary hypertension, infection and acute chest syndrome. These patients were found to have an increased risk of antenatal complications with the exception of diabetes mellitus.

El Shafei et al showed that women with SCD are more likely to have anemia, infection, intrauterine growth restriction IUGR, congenital abnormality, preterm delivery and cesarean section. These women had a significant increase in the rate of hospitalization mainly due to vaso-occlusive crises followed by hemolytic crises.

Though there are many studies that address management and pregnancy outcome of sickle cell disease women, most studies were retrospective, cohort or case-control. There is a lack of prospective randomized case-control studies in this field. The data published from our center included the SCD patients who delivered in 2002 which showed increased incidence of spontaneous abortion, preterm labour, IUGR and cesarean section rates among SCD patients.

The aim of this study is to evaluate the maternal and fetal outcome in pregnant women with sickle cell disease compared with healthy women.

METHOD

The data of pregnant women with SCD who delivered from 1 January 2011 to 31 December 2012 were reviewed. Matched control group who had neither SCD nor sickle cell trait were identified by reviewing the labor ward registry.

The following data were documented: nationality, age, gravidity, parity, gestational age and the reason for admission. The following

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