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THROMBOCYTOPENIA IN PREGNANCY –AN OBSERVATIONAL STUDY

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ABSTRACT

The objective of the study was to determine the aetiology, maternal and fetal outcome of thrombocytopenia in pregnancy. An observational hospital based study was conducted at ACME, Pariyaram for 5 years from January 2012 to December 2016. 8936 antenatal women were screened for thrombocytopenia and investigated for cause, management strategies and outcome. Incidence of thrombocytopenia in our study was 1.6%(144 cases) .The main cause of thrombocytopenia was gestational thrombocytopenia(47.9%). Other causes include Idiopathic thrombocytopenia (4.9%), preeclampsia and HELLP syndrome (33.4%), APLA(2%), SLE(0.7%), DIC(11.1%).Thrombocytopenia was significantly associated with placental abruption, PPH and IUGR. Diseases causing platelet count less than 50000 should be considered as high risk pregnancies and dealt accordingly to improve perinatal outcome.

INTRODUCTION

Thrombocytopenia, or a low blood platelet count described as a platelet count of 1.5 lakhs or less is encountered in 7-8% of all pregnancies and is a common hematologic management issue during gestation[1]. Pregnancy can influence adversely the platelet count either directly, as in gestational thrombocytopenia and preeclampsia/haemolysis, or indirectly through medical conditions, such as SLE, ITP etc. Gestational thrombocytopenia is the most common cause of thrombocytopenia in pregnancy.

During pregnancy, there is a general downward drift in platelet count particularly during the last trimester. The mechanisms for this are thought to be a combination of dilutional effects and acceleration of platelet destruction across the placenta. Hence thrombocytopenia is a common finding in pregnancy. Most cases are mild and have no significance for mother or fetus but, in some instances, where thrombocytopenia is part of a complex clinical disorder, there can be profound and even life threatening results for both mother and baby.

So in this study, we are analysing the incidence, causes, maternal, fetal and neonatal outcome of thrombocytopenia in pregnancy.

MATERIALS AND METHODS

A five year retrospective analysis of thrombocytopenia in pregnancy in patients who delivered in our hospital during the period from January 2012 to December 2016 was done.

Depending on platelet count, thrombocytopenia can be divided into mild (Platelet count 1-1.5 lakh), moderate (50,000 -1 lakh) and severe (<50,000).Mothers and their related newborns were evaluated retrospectively for symptoms and signs of thrombocytopenia. This study also analysed ante partum, intrapartum and postpartum complications including mode of delivery and correlation to newborn platelet count. Laboratory investigations (complete blood count, peripheral smear, LFT, coagulation profile, ANA) were also evaluated. The pregnancy outcome, delivery details and perinatal outcomes were studied.

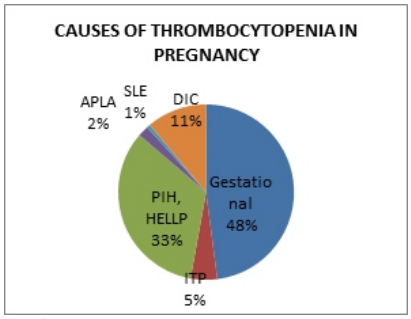
Descriptive statistics were used and percentages were calculated for qualitative variables like cause of thrombocytopenia, complications, maternal and fetal outcome.

INCLUSION CRITERIA- Pregnant patients with platelet count less than 1.5 lakh any time during pregnancy.

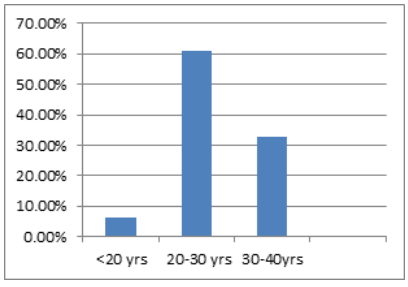
EXCLUSION CRITERIA- Patients with chronic liver disease, drug induced thrombocytopenia were excluded from this study

RESULTS

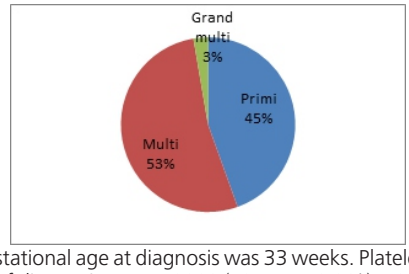
Out of 144 cases with platelet count below 1.5 lakh, the causes included gestational thrombocytopenia(69 cases,47.9%) ,ITP (7 cases,4.9%) Preeclampsia and HELLP(48 cases,33.4%) ,APLA (3 cases,2%) ,SLE (1 case,0.7%) ,DIC (16 cases,11.1%)



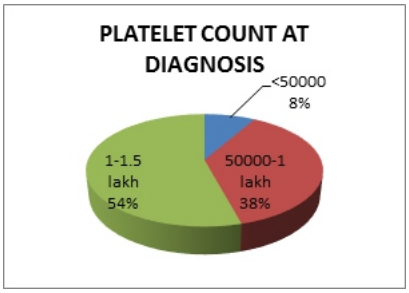
61% (88 cases) were in the age group 20-30years, 6.2% (9 cases) < 20 years and 32.6% (47 cases) in the age group 30-40.



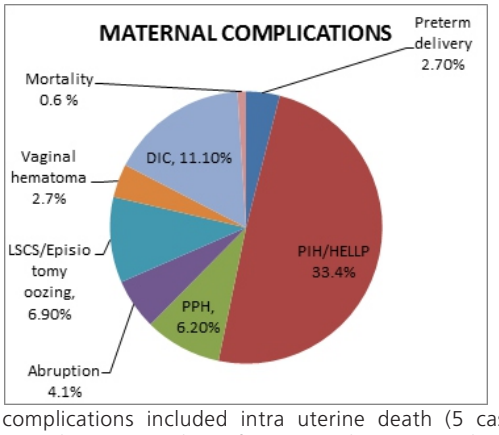
Parity wise distribution was as follows



Mean gestational age at diagnosis was 33 weeks. Platelet count at the time of diagnosis was <50000 (12 cases, 8.3%) ,50000-1 lakh (54 cases,37.5%),1 -1.5 lakh (78 cases,54.2%).8 cases (5.5%) needed drug treatment with methyl prednisolone/prednisolone.

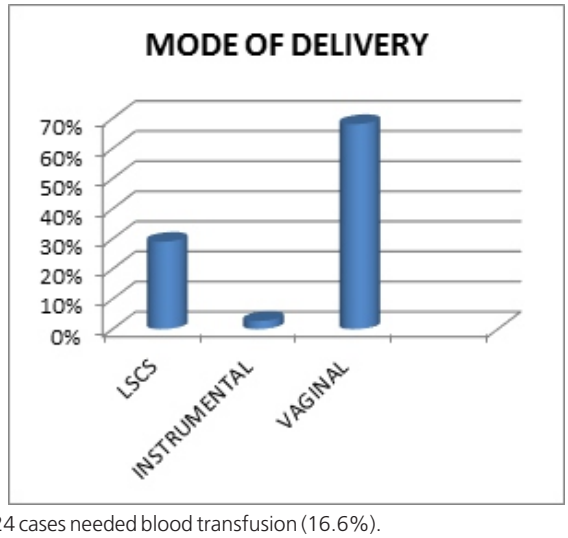


Maternal complications included preterm delivery (4 cases, 2.7%) ,PIH/HELLP (48 cases,33.4%), Post partum haemorrhage (9 cases,6.2%), Abruptio placenta (6 cases,4.1%) ,Oozing from LSCS/episiotomy (10 cases,6.9%) ,vaginal hematoma (4 cases,2.7%) and DIC (16 cases,11.1%).There was a case of maternal mortality which was a 24 year old primi gravida,24 weeks pregnancy, who was referred to our institution as a case of severe abruption with a platelet count of 38,000.Emergency hysterotomy done, but patient went into DIC and renal failure and expired.



Fetal complications included intra uterine death (5 cases, 3.4%),IUGR (8 cases,5.5%) and fetal distress(6 cases,4.1%).

With regards to mode of delivery, 42 cases had LSCS (29.1%), instrumental delivery in 4 cases (2.7%) and normal vaginal delivery in 98 cases (68.05%).



24 cases needed blood transfusion (16.6%).

DISCUSSION

Thrombocytopenia is a common problem during pregnancy, often under diagnosed and mismanaged1. A platelet count below the normal range is found in 8-10% of pregnancies 2.Approximately 75% of these cases are due to gestational thrombocytopenia, 15-20% can be attributed to hypertensive disorders, 3-4% to an immune process 2 and the remaining 1-2% are made up of rare constitutional thrombocytopenia, infections, and haematological malignancies.

In the present study, the incidence of thrombocytopenia was 1.6%.Prevalence was found to be lower than world literature (5-12%)7 .

The most common cause of thrombocytopenia in our study was gestational (48%) which has a favourable pregnancy outcome. It followed a benign course without any adverse effect or need for intervention. Sainio6 et al reported that cases of gestational thrombocytopenia3 have no impact on either mother or fetus. It is a benign condition found incidentally later in pregnancy and there is no bleeding risk to mother or fetus. Counts are typically more than 70000. There are no specific diagnostic tests and is usually a diagnosis of exclusion. It resolves quickly after delivery, but it can recur in subsequent pregnancies. A count should be performed 6 weeks postnatally and the result documented.

Thrombocytopenia due to HELLP syndrome and severe pre eclampsia was the second most common cause in our study (33%).We observed that HELLP syndrome was associated with high maternal and fetal morbidity and mortality due to placental abruption ,preterm deliveries, intrauterine growth restriction, still births and maternal deaths. Similar complications were reported by others1. ACOG recommended that primary treatment of maternal thrombocytopenia in PIH/HELLP is delivery. Platelet transfusion is less effective due to accelerated platelet destruction. Steroids were not used to raise platelet count in our institution.

ITP is usually a chronic condition accounting for 3% 6,7 of cases of thrombocytopenia in pregnancy. It may relapse or worsen during pregnancy. Thrombocytopenia is predominantly caused by antibodies that are specific to platelet surface glycoprotein and which bind to the platelets in maternal circulation, resulting in immune mediated platelet destruction. The antibodies can cross the placenta and cause fetal thrombocytopenia. Main concern at delivery for the mother is the risk of haemorrhage. Platelet count of at least 50000 is safe for vaginal or operative delivery. The recent guidelines recommend a platelet count of at least 75000 for safe placement of epidural catheter. Caesarean section is not routinely recommended as there is no evidence that this will reduce the incidence of intracranial haemorrhage among susceptible babies. Corticosteroids, the first line of therapy for ITP in non pregnant individuals can lead to pregnancy complications like PIH, GDM,PROM and placental abruption. Exposure to high doses of corticosteroids in the first trimester is associated with orofacial clefts. Incidence of ITP in our study was 5%.

Higher rates of preterm deliveries were observed among women with moderate to severe thrombocytopenia.PPH was higher (6.2%) in ITP. This calls for preparation with all preventive and therapeutic measures for PPH.

In conclusion, the common cause of thrombocytopenia in pregnancy is mainly gestational followed by preeclampsia/HELLP and ITP. Pregnancy complicated with thrombocytopenia is a challenge to the clinician .Platelet count should be routine at first antenatal visit for timely diagnosis and to achieve favourable fetomaternal outcome. The myriad of disease process, either pregnancy induced disorders or preconception medical conditions can cloud the correct diagnosis. It is important to remember that the great majority of patients will have a benign condition, but a minority of patients who have a more serious disease are at risk for serious morbidity and mortality. With a thorough history, physical examination, labarotary evaluation and appropriate consultation with obstetricians and haematologists, these patients uniformly have favourable outcomes .

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