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Analysis of fetal and maternal outcome among pregnant women referred for thrombocytopenia

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Abstract

Background: To study the etiology, obstetrical risk factors, complications and outcomes of pregnancies affected by thrombocytopenia.

Methods: This prospective study was conducted in the department of obstetrics and gynecology at SMS M.C.jaipur. eighteen (18)antenatal women who were referred with thrombocytopenia, was evaluated and compiled into three groups depending upon the etiological factors.

Statistical analysis: Done by calculating percentage distribution of variables.

Results Among eighteen 18 pregnant women referred for thrombocytopenia 66.66% (12) women had moderate thrombocytopenia while 27.97%(5) and 5.55% (1) women had mild and severe thrombocytopenia respectively.83.33%(15)of women had gestational thrombocytopenia, 11.22% (2)of women had PIH,HELLP syndrome and 5.55%(1)had ITP.77.77% (14)of women had vaginal delivery and 22.32%(4) had cesarean section which is due to obstetric cause. 11.11%(2)women had postpartum haemorrhage16.66%(3) neonate had iugr and prematurity.

Conclusion: early detection and effective management in tkrombocytopenia can imprve fetomaternal outcome.

Keywords: Gestational thrombocytopenia, Idiopathic thrombocytopenic purpura, Preeclampsia, HELLP syndrome

Introduction

Thrombocytopenia, defined as blood platelet count below 150.000/µL is the second leading cause of blood disorders in pregnancy after anemia. Thrombocytopenia affects 6% to 10% of all pregnant women

Due to haemodilution secondary to expansion of plasma volume, platelet count in normal pregnancies may decrease by approximately 10%, most of this decrease occurs during the third trimester. Thrombocytopenia can be classified as mild (platelet count of 100,000-150,000 X 109/L), moderate (platelet count of 50,000-100,000 X 109/L) or severe (platelet count less than 50,000 X 109/L).1 The physiological thrombocytopenia of pregnancy is mild and has no adverse effects for the

mother and fetus. By contrast, a significant thrombocytopenia associated with medical conditions can have serious maternal-fetal consequences and requires specific monitoring and appropriate management.

current guidelines consider that vaginal delivery is safe when platelet count is higher than 30.000/μL. For operative vaginal or cesarean deliveries, the safe platelet count should be at least 50.000 platelets/μL.

For safe epidural anesthesia is debated but in most guidelines, the reference value is around 75.000-80.000/μL.2 There is a theoretical concern over the risk of epidural hematoma with lower platelet values. Spontaneous bleeding may occur with less than 20.000 platelets/μL and the risk of internal bleeding is increased if the platelet count falls below 10.000/μL.3 Gestational thrombocytopenia explains 70-80% of all cases of thrombocytopenia in pregnancy. Hypertensive disorders account for approximately 20% and immune thrombocytopenic purpura for about 3-4%. Other etiologies are considered rare in pregnancy. Objectives of the study were to study the incidence of thrombocytopenia in pregnancy and to study the various etiological factors associated with thrombocytopenia in pregnancy and effective monitoring to improve fetomaternal outcome.

Method

This prospective study was conducted in department of obstetric and gynaecology SMS,MC jaipur for a six month period from july 2017 to December 2017.this done on patient referred for thrombocytopenia from outside and who gave consent for study

Inclusion criteria

pregnant women referred for thrombocytopenia with platelet count less than1,50,000/μL and who were giving consent to participate in the study were included for study over a period of six month. Fetomaternal outcome was done in 18 women who were referred with thrombocytopenia after the gestational age of 32 weeks.For confirmation of thrombocytopenia blood sample was collected and sent to laboratory for platelet count estimation.

Exclusion Criteria

Women who not give consent for study,and

known history of

Previous bad obstetric histories

Collagen disorders

Tuberculosis

Epilepsy

Methodology

Referred antenatal thrombocytopenia women were include in the study after applying inclusion and exclusion criteria.. Platelet countt was done for confirmation of thrombocytopenia. Detailed history , general systemic and obstetric examination was done ,routine blood investigation done like CBC, blood group and Rh typing, urinalysis, VDRL, HBsAg and HIV serology were carried out in all women. Special investigations like coagulation profile ,KFT and LFT were done if required Gestational age was calculated by menstrual history and confirmed by USG. Women were followed up to 4 week postpartum and record any maternal complications like preeclampsia, preterm labour, abruption,etc and fetal outcome like low birth baby weight, iugr,prematurity.mode of delivery were recorded. platelet count in neonate was assessed by taking cord blood sample.

All cases were followed up by estimation of platelet count on 10th days postpartum.

Results

In our study eighteen (18) antenatal women referred for thrombocytopenia ,most of women 66.66% (12) were moderate thrombocytopenia ,27.97%(5) women and

5.55% (1) women were mild and severe thrombocytopenia respectively.according to different etiology in our study most of cases 83.33%(15) were gestational thrombocytopenia, 11.22% (2) were Preeclampsia,HELLP syndrome and 5.55%(1) were idiopathic thrombocytopenic purpura.in our study most of cases 77.77% (14) were delivered by vaginal route and 22.32%(4) cases by cesarean section which is due to meconium stained liquour,breech presentation and failed induction .four out of eighteen cases required blood transfusion due to 11.11%(2)women were postpartum haemorrhage, and association with anemia in other only cross match required .11.12.%(2) neonate had jaundice due to prematurity and 5.55% develop respiratory syndrome

Table 1 Distribution of cases according to platelet count

Thrombocytopenia (platelet count)	**No. of cases**	**Percentage**
Mild (>100,000)	5	27.97%
Moderate (50000-100,000)	12	66.66%
Severe (< 50000)	1	5.55%
Total	18	100%

Table 2 Distributions of cases based upon etiology of thrombocytopenia

Etiology	**Number**	**Percentage**
GESTATIONAL THROMBOCYTOPENIA	15	83.33%
PIH related	2	11.12%
ITP	1	5.55%

Table 3 distributions of cases based upon association with PIH

Association	**Number**	**Percentage**
WITH PIH	2	11.12%
WITHOUT PIH	16	88.88%

Table 4 Distribution of cases according to mode of delivery

vaginal	14	77.77%
Cesarean	4	22.32%
Blood transfusion	4	22.32%
Platelet transfusion	1	5.55%
Post partum haemorrhage	2	11.11%
Episiotomy hematoma	1	5.55%

Discussion

Thrombocytopenia during pregnancy, often later diagnosed and proper monitoring was not done .

This prospective study was for six month which included only referred thrombocytopenia (18) antenatal women. In our study all of patient were more than 32 week of gestation referred for thrombocytopenia.in study done by Parnas et al in which maximum cases 74.4 % were in the gestational age 37-40 weeks.4 In our study 66.66% cases had moderate thrombocytopenia which is compared to study conducted by Borna et al (30%) whereas in study by Singh et al moderate thrombocytopenia was seen in less number of patient i.e. 17.9.%.5,6 In the present study severe thrombocytopenia was seen in 5.55% of patient where study done by Borna et al and Singh et al found severe thrombocytopenia was seen in (16% and 7.4%

respectively).5,6 In our study the thrombocytopenia associated with PIH was seen in 11.12% women, which was similar to the studies of Singh et al 6(24.20%), Vyas et al (22%)7, Parnas et al 4 (21.11%) . in our study most of cases 77.77% (14) were delivered by vaginal route and 22.32%(4) cases by cesarean section which is due to obstetric indication. similar to study done by Singh et al (LSCS 36% and FTNVD 64%) and Vyas et al (LSCS 37% and FTNVD 63%)6,7.LSCS required in 4 outbof 18 case in which most of LSCS (50%)due to meconium stained liquour and 1 case due to breech and 1 case due to failed induction. In our study blood transfusion required in 4 cases due to association with anemia while in other caess cross match arrange of blood compared to other study for blood transfusion in the studies by Parnas et al 4 (16.60%), Borna et al (26.20%)5.

In our study 2 (11.12%) neonate develop jaundice and 1(5.55%) develop respiratory distress syndrome ,15 neonate(83.33%) were not any complication at time of birth. After delivery, platelet count of all the neonates of the mothers enrolled for study was done. Out of 18 neonate, 17 were platelet count more than 150000/μL and only 1 neonates had thrombocytopenia with platelet count between 1,00,000 to 1,49,999/μL.

Conclusion

GT is the most common cause of thrombocytopenia in pregnancy.Monitoring of platelet count of mother should be a routine at antenatal visits for timely diagnosis and to achieve favourable feto-maternal outcome in all types of thrombocytopenia

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