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Research Article

A study of platelet disorders in pregnancy

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ABSTRACT

Background: Thrombocytopenia is low platelet count, if present during pregnancy can jeopardize the maternal and fetal outcome. Thrombocytopenia affects 6-15% of pregnancies. Causes of thrombocytopenia include gestational, idiopathic thrombocytopenia, preeclampsia, HELLP, DIC, malignancy and marrow failure.
We planned to do this study to find out common causes of thrombocytopenia in our hospital and management being used.
Methods: Data was collected form those women who came to the antenatal clinic (booked) and labour room (unbooked) in the department of obstetrics and gynaecology, Sir Sunder Lal hospital, institute of medical sciences, Banaras Hindu University. Data of a total of 67 pregnant women were collected during the period of July 2012 to June 2015.
Results: There were 74.62% cases of gestational thrombocytopenia, 10.44% related to preeclampsia, 4.47% in Eclamptic patients, 1.49% in HELLP and DIC, 5.97% in ITP, and lastly 1.49% in malaria cases. There were number of associated complication whether directly related (PPH) or part of the disorder. PPH was observed in 22.38% which is maximum among all complications. Other complications were part of major associated illness i.e. liver failure (7.46%), renal failure (4.47%), DIC (4.47%) and HELLP (7.46%).
Conclusions: Mode of delivery was not influenced by platelet count, but for obstetric indications. Management of patients was as per the diagnosis. Single donor plasma is preferable to random donor plasma. PPH was the commonest complication and we should be wary of that.

Keywords: Thrombocytopenia, Postpartum haemorrhage, Preeclampsia, ITP, HELLP, DIC

INTRODUCTION

Thrombocytopenia is low platelet count, if present during pregnancy can jeopardize the maternal and fetal outcome. Thrombocytopenia affects 6-15% of pregnancies. The increasing report of thrombocytopenia is also be attributed to better antenatal check-ups and performance of investigation like complete blood count (CBC).[1]

It is defined as platelet count less than 150 X 10^9/l. Pregnancy does per se alter platelet level to a great extent but slight changes takes place, which are more pronounced towards term.

Causes of thrombocytopenia include gestational, idiopathic thrombocytopenia, preeclampsia, HELLP, DIC, malignancy and marrow failure.[2-4]

We planned to do this study to find out common causes of thrombocytopenia in our hospital and management being used.

METHODS

Data was collected form those women who came to the antenatal clinic (booked) and labour room (unbooked) in the department of obstetrics and gynaecology, Sir Sunder Lal Hospital, institute of medical sciences, Banaras Hindu University. Data of a total of 67 pregnant women were collected during the period of July 2012-June 2015.

Data collection was done on a pre-prepared proforma, which collected details of their antenatal history ie gestational age, risk factors, past obstetric history; and medical history ie viral infection, history of bleeding from gingiva, nose, skin petechiae, along with socio-demographic details. History of drug use was also taken. Thorough physical examination including obstetric examination was performed and noted.

At the time of booking and labour room admission it is customary to do complete blood count of all gravid women in our set up. Routinely patients are investigated for HBsAg and HIV antenatally. If thrombocytopenia was observed then patient was investigated further. Bleeding time, clotting time and Coagulation test (PT, APTT) were done. Liver function test, renal function test and check up for infections like dengue fever were done if symptoms were suggestive. Platelet count was repeated monthly if was found thrombocytopenic.

Patients were followed up through-out their gestational period. Feto-maternal outcomes were recorded. Any complication during antenatal period and delivery was noted. Mode of delivery, complications during delivery and postpartum complications in mother and NICU admission, neonatal outcome and birth weight of baby was recorded.

RESULTS

Table 1 Classification of thrombocytopenia as per etiology.

Cause	Number= 67	Percentage
Gestational	50	74.62%
Preeclampsia	7	10.44%
Eclampsia	3	4.47%
HELLP	1	1.49%
AFE	0	0
DIC	1	1.49%
ITP	4	5.97%
Hypersplenism	0	0
Malaria	1	1.49%

There were 74.62% cases of gestational thrombocytopenia, 10.44% related to preeclampsia, 4.47% in eclamptic patients, 1.49% in HELLP and DIC, 5.97% in ITP, and lastly 1.49% in malaria cases (Table 1).

4.47% cases had severe thrombocytopenia (<10,000), 16.41 % cases (<50,000) while 25.37% had 50,000-1 lac and 53.73% had between 1-1.5 lac (Table 2). Majority of the patients were in 18-25 years of age group and multigravida females (Table 3 and 4).

Table 2: Severity of thrombocytopenia.

Platelets levels	Number of cases =67	Percentage
<10,000	3	4.47%
10,000-50,000	11	16.41%
50,000-1 Lac	17	25.37%
1 Lac-1.5 Lac	36	53.73%

Table 3: Age.

Age in years	Number	Percentage
18-25	44	65.67%
26-35	21	31.34%
36-46	2	2.98%

Table 4: Parity.

Parity	Number	Percentage
Primi	23	34.32%
Multi	44	65.67%

Table 5: Maternal outcome.

Maternal complications	Number=67	Percentage
PPH	15	22.38%
Liver failure	5	7.46%
Renal failure	3	4.47%
DIC	3	4.47%
HELLP	5	7.46%
Maternal death	0	0%

There were number of associated complication whether directly related (PPH) or part of the disorder. PPH was observed in 22.38% which is maximum among all complications. Other complications were part of major associated illness i.e. liver failure (7.46%), renal failure (4.47%), DIC (4.47%) and HELLP (7.46%).

Mode of delivery was decided based on the obstetric factors or medical factors. In this group there were 36% vaginal deliveries and rest were caesarean sections. Percentage of preterm babies born in this group was 48%.

DISCUSSION

Obstetric thrombocytopenia is a condition in which obstetric conditions i.e. severe preeclampsia. HELLP, DIC, abruption have resulted in thrombocytopenia whilst

if it is ITP (Idiopathic thrombocytopenic purpura) then it is a medical condition to be dealt with during pregnancy. Thrombocytopenia increases the risk of PPH, while the other associated obstetric and medical conditions (mentioned above along with anaemia and sepsis) increase the risk of multiple organ failure and maternal mortality.[5-7]

Mode of delivery was not influenced by platelet count, but for obstetric indications. Caesarean sections were done for abruption, severe preeclampsia, eclampsia, previous caesarean section, failed induction or failed progress of labour. Neonates were examined for any hematomas and investigated for platelet count.[8]

Random donor platelets or single donor platelets were used depending upon the availability. In case of PPH blood and blood products were used. Steroids were continued in patients of ITP with medical consultation. Follow up was done by monthly platelet count.

Gestational thrombocytopenia is the commonest cause of low platelet during pregnancy but other medical disorder must be excluded by through history, physical examination, and investigations.

If thrombocytopenia was preexisting then a medical disorder is more likely while if it develops during pregnancy gestational cause is more likely. Primary immune thrombocytopenia was managed as per protocol.[9]

CONCLUSION

Mode of delivery was not influenced by platelet count, but for obstetric indications. Management of patients was as per the diagnosis. Single donor plasma is preferable to random donor plasma. PPH was the commonest complication and we should be wary of that.

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