

Original Research

Evaluation of thrombocytopenia during pregnancy

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ABSTRACT:

Background: After anemia, thrombocytopenia is the second most common cause of blood problems in pregnancy. The present study was conducted to evaluate thrombocytopenia during pregnancy. **Materials & Methods:** 76 antenatal women admitted in the ward of obstetrics and gynecology with platelet count less than 1 lakh/cubic cc were enrolled. The etiology of thrombocytopenia in pregnancy was recorded. **Results:** The age group 20-25 years comprised of 24, 25-30 years had 30, 30-35 years had 16 and >35 years had 6 cases. The difference was non-significant ($P > 0.05$). The gravida 1 was seen in 14, 2 in 26 and >2 in 36 cases. The mode of delivery was vaginal in 36 and cesarean in 40 cases. Blood pressure (mm Hg) <140/90 was seen in 45 and >140/90 in 31 cases. The difference was non-significant ($P > 0.05$). The etiology of thrombocytopenia under non-obstetric causes was dengue in 5 and DIC in 10 cases. In obstetric causes, the main reason was gestational thrombocytopenia in 16, pre-eclampsia in 21, eclampsia in 10, and acute fatty liver of pregnancy in 14 cases. **Conclusion:** Particularly in third-trimester hypertensive pregnant women, gestational thrombocytopenia (GT) is recognized as a primary cause of thrombocytopenia. For those women, careful monitoring both during and after pregnancy is advised.

Keywords: Gestational thrombocytopenia, pregnancy, Anemia

Received: 23 December, 2020

Accepted: 27 January, 2021

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This article may be cited as: Nitika, Jain K. Evaluation of thrombocytopenia during pregnancy. J Adv MedDent Scie Res 2021;9(2): 155-158.

INTRODUCTION

After anemia, thrombocytopenia is the second most common cause of blood problems in pregnancy. It is defined as a blood platelet count below 150,000/L. 7 to 10% of all pregnancies are complicated by it.¹ Due to haemodilution, greater consumption in peripheral tissue, and increased aggregation (higher levels of thromboxane A₂), the platelet count physiologically decreases during a typical pregnancy. Pregnancy-related physiological thrombocytopenia is minimal and has no negative consequences on the mother or fetus. On the other hand, substantial thrombocytopenia brought on by medical disorders can have negative effects on the mother and fetus and calls for careful monitoring and control.² Gestational thrombocytopenia (GT) is a benign condition with moderate thrombocytopenia (platelet count of 130-150,000/μL) in most of the cases. Platelet values below 50,000/μL in a pregnant woman exclude GT

and require the search of another etiology. Gestational thrombocytopenia is a diagnosis of exclusion.³ Preeclampsia incidence is predicted to occur in 5–10% of pregnancies, with the first pregnancy having a greater frequency than subsequent pregnancies, particularly in women under the age of 20.⁴ In patients with HELLP syndrome or those who have a full-blown case of eclampsia with disseminated intravascular coagulation, the frequency and severity of thrombocytopenia rise with the severity of preeclampsia.⁵ Without a prior history of thrombocytopenia outside of pregnancy, the illness is asymptomatic, often manifests in the second half of pregnancy, and the platelet count spontaneously returns to normal during the first two months postpartum.⁶ The present study was conducted to evaluate thrombocytopenia during pregnancy.

MATERIALS & METHODS

The present study consisted of 76 antenatal women admitted in the ward of obstetrics and gynecology with platelet count less than 1 lakh/cubic cc who voluntarily gave their written consent to participate in the study.

Data such as name, age, etc. was recorded. A thorough clinical examination was performed on all

patients. Assessment of blood pressure was done and complete blood counts (CBC) were recorded. Gravida was also recorded. The etiology of thrombocytopenia in pregnancy was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Age group (years)	Number	P value
20-25	24	0.85
25-30	30	
30-35	16	
>35	6	

Table I shows that age group 20-25 years comprised of 24, 25-30 years had 30, 30-35 years had 16 and >35 years had 6 cases. The difference was non-significant ($P > 0.05$).

Table II Assessment of parameters

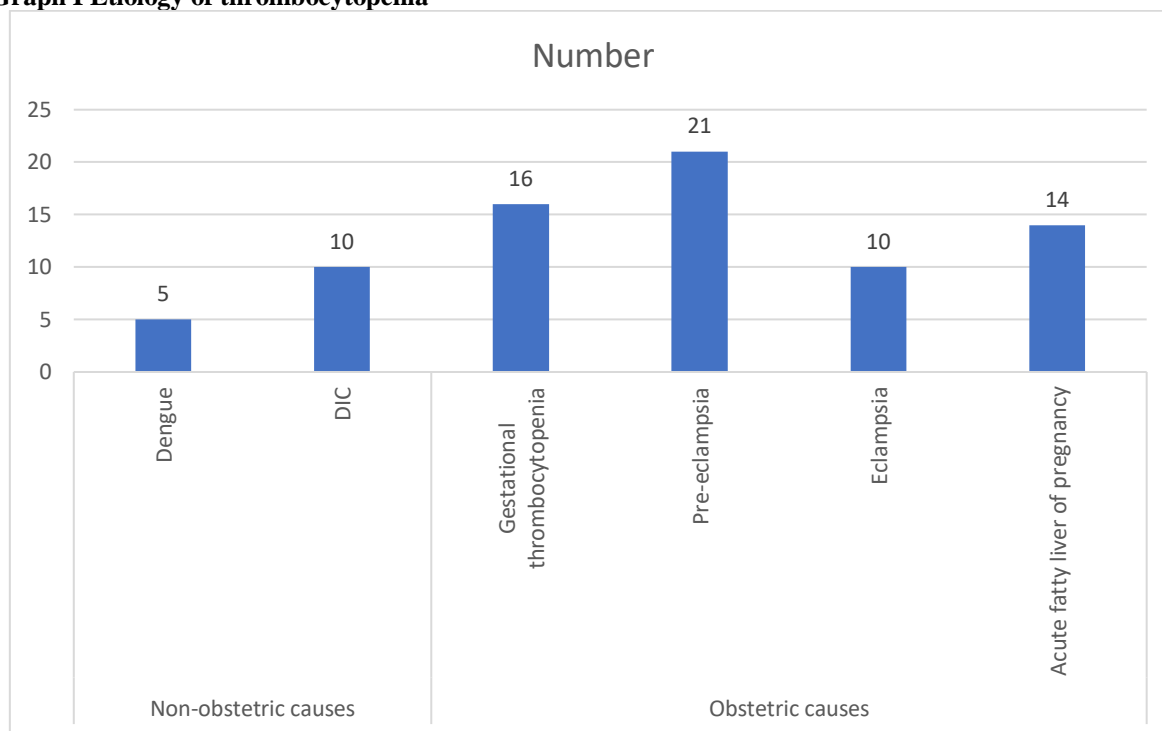
Parameters	Variables	Number	P value
Gravida	1	14	0.11
	2	26	
	>2	36	
Mode of delivery	Vaginal	36	0.95
	Cesarean	40	
Blood pressure	<140/90	45	0.52
	>140/90	31	

Table II shows that gravida 1 was seen in 14, 2 in 26 and >2 in 36 cases. The mode of delivery was vaginal in 36 and cesarean in 40 cases. Blood pressure (mm Hg) <140/90 was seen in 45 and >140/90 in 31 cases. The difference was non-significant ($P > 0.05$).

Table III Etiology of thrombocytopenia

Etiology	Variables	Number	P value
Non-obstetric causes	Dengue	5	0.02
	DIC	10	
Obstetric causes	Gestational thrombocytopenia	16	0.91
	Pre-eclampsia	21	
	Eclampsia	10	
	Acute fatty liver of pregnancy	14	

Table III, graph I show that the etiology of thrombocytopenia under non-obstetric causes was dengue in 5 and DIC in 10 cases. In obstetric causes, the main reason was gestational thrombocytopenia in 16, pre-eclampsia in 21, eclampsia in 10, and acute fatty liver of pregnancy in 14 cases.

Graph I Etiology of thrombocytopenia

DISCUSSION

The second most common cause of thrombocytopenia in pregnancy is thrombocytopenia linked with hypertension diseases (preeclampsia, eclampsia, acute fatty liver of pregnancy).⁷ In this situation, thrombocytopenia is an indication of a severe hypertensive disease. Rarely do levels drop below 20,000/L.^{8,9} 20% of prenatal cases of thrombocytopenia are brought on by preeclampsia. Sometimes the single initial symptom of this illness, preceding all other test findings, is thrombocytopenia.^{10,11} In 40% of patients, the condition can manifest without proteinuria or hypertension, making the diagnosis difficult to make. Approximately 70% of cases manifest before birth, with the majority occurring between the 27th and 37th week of pregnancy.^{12,13} The present study was conducted to evaluate thrombocytopenia during pregnancy.

We found that age group 20-25 years comprised of 24, 25-30 years had 30, 30-35 years had 16 and >35 years had 6 cases. We observed that gravida 1 was seen in 14, 2 in 26 and >2 in 36 cases. The mode of delivery was vaginal in 36 and cesarean in 40 cases. Blood pressure (mm Hg) <140/90 was seen in 45 and >140/90 in 31 cases. According to Mangann et al¹⁴, thrombocytopenia occurs 8% of the time during pregnancy as a whole. When obstetric or medical circumstances are taken into account, the incidence of PIT lowers to 5.1%, and PIT accounts for nearly three-fourths of all instances. People with mild and severe forms of preeclampsia (15-18%) are more likely to experience thrombocytopenia than people with eclampsia (30%). Patients have severe

preeclampsia, with 4-12% of patients meeting the criteria for HELLP syndrome. Immune-mediated thrombocytopenia accounts for 4.1% of instances, while the remaining cases are due to other factors such as phospholipid syndrome, medications, etc.

We found that the etiology of thrombocytopenia under non-obstetric causes was dengue in 5 and DIC in 10 cases. In obstetric causes, the main reason was gestational thrombocytopenia in 16, pre-eclampsia in 21, eclampsia in 10, and acute fatty liver of pregnancy in 14 cases. 50 women with thrombocytopenia identified during pregnancy (platelet count, 150 x 10⁹/L) are the subject of an investigation by Ajzenberg et al.¹⁵ In 48% of the women, they discovered biochemical markers for an autoimmune illness, and in 55%, they discovered persistent thrombocytopenia. In one example, a familial thrombocytopenia was discovered. 24 of the 63 neonates born by these 50 women were thrombocytopenic at delivery or within the first week of life. Only in multiparous women may neonatal thrombocytopenia be predicted based on the presence of previous neonatal thrombocytopenia in older siblings or when a maternal platelet lifespan testing conducted prior to pregnancy revealed a profile similar to autoimmune thrombocytopenia (AITP).

CONCLUSION

Authors found that particularly in third-trimester hypertensive pregnant women, gestational thrombocytopenia (GT) is recognized as a primary cause of thrombocytopenia. For those women, careful monitoring both during and after pregnancy is advised.

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