

Study of Thrombocytopenia in Pregnancy and the Correlation of its Etiopathogenesis and Maternal and Fetal Outcome

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Abstract:

Background: Thrombocytopenia is the second most common haematological disorder after anaemia in Pregnancy. Most of the cases of Thrombocytopenia are Gestational thrombocytopenia followed by hypertensive diseases. Gestational thrombocytopenia essentially poses no risk to either the mother or fetus-neonate. But thrombocytopenia due other diseases adversely affect the mother, fetus and neonate. So early interdisciplinary evaluation of thrombocytopenia during pregnancy can help in optimizing care as adverse outcomes and management depend on the etiology of the thrombocytopenia. This study aim to estimate prevalence of thrombocytopenia in pregnancy and to correlate maternal and fetal outcome with etiological factors of thrombocytopenia in pregnancy after 34 weeks of gestation at a tertiary care unit in Central India

Materials and Methods: A prospective cross sectional study was conducted with a sample size of 123 pregnant patients selected from those admitted in labour ward with gestational age >34weeks with platelet count <1,50,000/cu.mm in Tertiary Care Centre in Central India from November 2022 to November 2023. Details regarding patient's demographics, detailed history of period of gestation, high risk factors, past history, patient's entire obstetric history, complications- during past and present pregnancy were entered in the proforma. Details of examination findings, laboratory investigations were entered in the questionnaire. Also the details about platelet transfusions, ICU admissions, neonatal outcome, and maternal deaths were recorded. Descriptive statistics analysis was carried out including frequency and percentage. The results of the study were tabulated.

Results: In 1 year study duration, 9.8% pregnant patients had thrombocytopenia. Majority of patients were diagnosed with gestational thrombocytopenia, severe pre-eclampsia (Partial HELLP), HELLP syndrome, Pancytopenia, Dengue, AFLP and ITP (70.73%, 16.26%, 8.13%, 1.62%, 1.62%, 0.81%, and 0.81% respectively). Majority of the patients had mild thrombocytopenia i.e. 60.16%, followed by moderate thrombocytopenia(30.08%) and least number of patients(9.76%) had severe thrombocytopenia. 25.20% of the study participants required platelet transfusion, 9.7% required ICU admission and 1.63% had maternal death. Majority of the babies were motherside. 21.14% of delivered babies had low birth weight, 9.7% babies needed NICU admission and out of these 2.44% had neonatal deaths.

Conclusion: The present study revealed that prevalence of thrombocytopenia in Tertiary Care Centre in Central India is 9.8%. Pregnant patients with thrombocytopenia are associated with increased risk of maternal and neonatal morbidity and mortality. So Careful surveillance of these thrombocytopenic mothers and their babies should be done in order to establish the aetiology and timely appropriate management.

Key words : Prevalence of Thrombocytopenia, Gestational Thrombocytopenia, Maternal and Fetal Outcome.

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Introduction

Platelets are non-nucleated cellular fragments of megakaryocytes, they play crucial role in hemostasis.

Due to hemodilution secondary to plasma volume expansion, platelet count in normal pregnancies may be decreased by approx. [1] 10%; most of this decrease occurs during third trimester of pregnancy

Thrombocytopenia is the second most common hematological disorder after anemia in Pregnancy. [2]

Most of the cases of Thrombocytopenia are Gestational thrombocytopenia followed by hypertensive diseases. Gestational Thrombocytopenia is responsible for approx. 75% of thrombocytopenia in pregnancy.

The overall incidence of thrombocytopenia in pregnancy is 8%, but when patients with obstetric or medical conditions are excluded, the incidence drops to 5.1%. [3]

Obstetricians diagnose thrombocytopenia by automated complete blood cell count during prenatal screening. [4]

Thrombocytopenia can be classified as [1-2]

1. Mild- 1lakh-1.5lakh/microlitres.
2. Moderate- 50000-1lakh /microlitres.
3. Severe- < 50000/microlitres.

The most common cause is gestational thrombocytopenia which accounts for almost three fourths of all cases. Gestational thrombocytopenia is physiological fall in platelet count resulting from hemodilution of normal pregnancy & increased platelet clearance. [1,2]

Gestational thrombocytopenia essentially poses no risk to either the mother or fetus-neonate. [3] Hypertensive disorders are other important cause of thrombocytopenia in pregnancy.

Thrombocytopenia occurs more commonly in patients with eclampsia than in patients with both mild and severe forms of preeclampsia. Of the patients who have severe preeclampsia, 4% to 12% will manifest criteria for HELLP syndrome (hemolysis, elevated liver enzymes, and low platelet counts). Immune-mediated thrombocytopenia, including idiopathic thrombocytopenia purpura and neonatal alloimmune thrombocytopenia, is responsible for small number. These conditions, however, can cause considerable morbidity and mortality and must be managed closely. Other, less common causes include rheumatologic disease (eg, systemic lupus erythematosus), disseminated intravascular coagulation, thrombotic thrombocytopenia purpura, fatty liver, antiphospholipid syndrome, human immunodeficiency virus (HIV) infection, and medications.

The predominant causes of thrombocytopenia are gestational thrombocytopenia (59.3%), immune thrombocytopenic purpura (11%), preeclampsia (10%) and HELLP syndrome(12%). [5]

Thrombocytopenia associated with hypertensive disorders (preeclampsia, eclampsia, HELLP syndrome, acute fatty liver of pregnancy) is 2nd leading cause of thrombocytopenia in pregnancy. [6] The pathophysiologic mechanism of thrombocytopenia in hypertensive disorders is the thrombotic microangiopathy characterized by endothelial injury, followed by platelet aggregation and thrombus formation in small vessels. The markers of thrombotic microangiopathy are the presence of schistocytes on peripheral blood smear and increased bilirubin >1.2 mg/ dL, decreased haptoglobin <25 mg/dl and increased LDH biochemically.

Immune thrombocytopenic purpura (ITP), an autoimmune disorder characterized by the antiplatelet glycoprotein antibodies that stimulate the platelet destruction in the spleen, is a rare cause of thrombocytopenia in pregnancy (3- 4%). [3,6] Unlike gestational thrombocytopenia, ITP can occur anytime during pregnancy. Moreover, most pregnant women with ITP may have a history of thrombocytopenia prior to pregnancy or may present with other immune mediated diseases. The platelet count does not spontaneously improve postpartum and the therapeutic response to steroids or IVIG (intravenous immuno globulins) contributes to the diagnosis of ITP.

A weak positive correlation was observed between maternal and fetal platelet counts, and no significant association between maternal thrombocytopenia and neonatal complications was noted. [7] Platelet counts returned to normal within 6 weeks in all women except the one with ITP.

Early interdisciplinary evaluation of thrombocytopenia during pregnancy can help in optimizing care as adverse outcomes and management depend on the etiology of the thrombocytopenia.

This study aims to estimate prevalence of thrombocytopenia in pregnancy and to correlate maternal and fetal outcome with etiological factors of thrombocytopenia in pregnancy after 34 weeks of gestation at a tertiary care unit in Central India.

Materials and Methods

The present study was conducted from November 2022 to November 2023.

Sample size is determined considering the study of 'Prevalence of thrombocytopenia among pregnant women attending antenatal care service at Gondar University Teaching Hospital in 2014, northwest Ethiopia' a cross sectional study by Fikir Asrie et al. Based on the study conducted by Fikir et al, The prevalence of thrombocytopenia among pregnant women was 8.8%.

Formula

$$n = \frac{Z\alpha^2 * pq}{d^2}$$

Where n is the required sample size.

Z α is the standard normal deviate, which is equal to 1.96 at a 95% confidence interval.

p is the prevalence in the population of the factor under study.

$$q = 100 - p$$

d = Absolute precision is taken as 5%

$$p = 8.8\%$$

$$q = 91.2\%$$

n = number of samples to be studied

$$n = z\alpha^2 * pq / d^2$$

$$n = (1.96)^2 * 8.8 * 91.2 / (5)^2$$

$$n = 123$$

Therefore 123 subjects were included in this study.

Inclusion Criteria

1. All pregnant patient of more than equal to 34 weeks of gestation with newly diagnosed thrombocytopenia (platelet count less than 1,50,000).
2. All pregnant patient of more than equal to 34 weeks of gestation willing to participate in the study

Exclusion Criteria

1. Patients diagnosed with THROMBOCYTOPENIA with certain diseases before pregnancy
 2. Patients not willing to participate in the study
 3. All the pregnant patients with thrombocytopenia and gestation less than 34 weeks.
- In this Study, 123 Patients were taken from the those admitted in labour ward- ANC Patients with gestational age >34weeks in Tertiary Care Centre in Central India from
 - The patients with Platelet Count <1,50,000/cu.mm according to Automated Complete Blood Count were selected
 - A written informed consent was taken from all study participants.
 - To collect information a structured proforma was designed.
 - Details regarding patient's demographics, detailed history of period of gestation, high risk factors, past history, patient's entire obstetric history, complications- during past and present pregnancy were entered in the proforma.
 - Patients having history of petechiae, bruising, drug usage, blood and blood products transfusions, thrombocytopenia in previous pregnancies were excluded from the study
 - General, systemic and obstetric examination was done.
 - All the patients were subjected to routine laboratory testing- a Complete Blood Count (CBC), Blood Film Examination (Peripheral smear), Liver and Kidney function tests and Coagulation profile (INR, Bleeding Time and Clotting Time).
 - Dengue serology and Malaria parasite were checked in patients with history of fever.

- Platelet count assessment was done through Automated blood count Analyser.

For the study, thrombocytopenia was divided into 3 groups based on severity of platelet counts at baseline: Mild- 1lakh-1.5lakh/microlitres, Moderate- 50000-1lakh /microlitres, Severe- < 50000/microlitres.

- All the thrombocytopenic cases were followed up till discharge of the patient after delivery.
- From enrolment till delivery, the maternal platelet count was measured every 2-4 weeks; this was done weekly in patients with moderate thrombocytopenia and twice a week in patients with severe thrombocytopenia.
- Their gestational age was noted from LMP and early scan. Risk factors was noted.
- Details of delivery were recorded in the form of preterm or term delivery, Mode of delivery- LSCS and Normal vaginal delivery.
- Details of Maternal outcome in the form of blood and blood products transfusions, any complications during delivery, postpartum period, ICU admissions and maternal deaths were recorded.
- Details of fetal outcome was recorded in the form of live births, term and preterm births, IUD, still birth, NICU admission, complications and neonatal deaths.

This study was conducted in accordance with Good Clinical Practice and in a manner to conform to the Helsinki Declaration of 1975, as revised in 2013 concerning human rights. The most important factors considered were the well being and safety of patients. Strict confidentiality of the study reports was maintained and all the queries and apprehensions of the patients and their families was addressed with utmost care.

Statistical Analysis

Data was collected, coded and fed in Statistical Package for Social Sciences (SPSS) for statistical analysis. Descriptive statistics analysis was carried out including frequency and percentage. The results of the study were tabulated.

Results

During the study duration , 11639 pregnant patients got admitted to Labour ward, out of which 1139 patients had thrombocytopenia i.e platelet count <1,50,000/cu.mm. Detailed study was conducted among 123 patients among these pregnant patients with thrombocytopenia. The study showed that the majority were in the age group of 21-30 years (82.92%) followed by ≤20 years (11.38%). The least number of patients had age >30 years (5.6%). The patients age ranged from 19 to 35 years with a

mean age of 24.04 ± 4.10 years. 63% of patients were from rural areas while 37% belonged to urban areas. The majority belonged to the middle class (35.77%), followed by the lower middle class

(24.39%), and the upper middle class (17.07%). While, least number of patients belonged to the upper class (12.20%) and the lower class (10.56%).

Table 1. Demographic Details of the Participants

Variable		Frequency	Percentage
Age	≤20 years	14	11.38
	21 – 30 years	102	82.92
	> 30 years	7	5.6
Geographical Area	Rural	77	63
	Urban	46	37
Socioeconomic status	Upper class	15	12.20
	Upper middle class	21	17.07
	Middle class	44	35.77
	Lower middle class	30	24.39
	Lower class	13	10.56
	Upper class	15	12.20
	Upper middle class	21	17.07

Table 2 and Figure 1 depict the distribution of patients according to diagnosis. In this study, out of 123 patients, majority diagnosed with gestational thrombocytopenia (70.73%) followed by severe pre-eclampsia (partial HELLP) (16.26%), HELLP syndrome (8.13%), pancytopenia (1.62%), dengue (1.62%), AFLP (0.81%) and ITP (0.81%). As the majority of patients had gestational thrombocytopenia, majority of patients had mild thrombocyto-

penia because 77.01% of patients with gestational thrombocytopenia had only mild thrombocytopenia followed by 22% of patients with gestational thrombocytopenia had moderate thrombocytopenia and no patient with gestational thrombocytopenia had severe thrombocytopenia. In this study, severe thrombocytopenia is mostly seen in patients with severe preeclampsia (53%).

Table 2: Distribution of patients according to diagnosis

Diagnosis	N=123	Percentage
Gestational Thrombocytopenia	87	70.73
Severe Preeclampsia(Partial HELLP)	20	16.26
HELLP	10	8.13
Pancytopenia	2	1.62
Dengue	2	1.62
AFLP	1	0.81
ITP	1	0.81

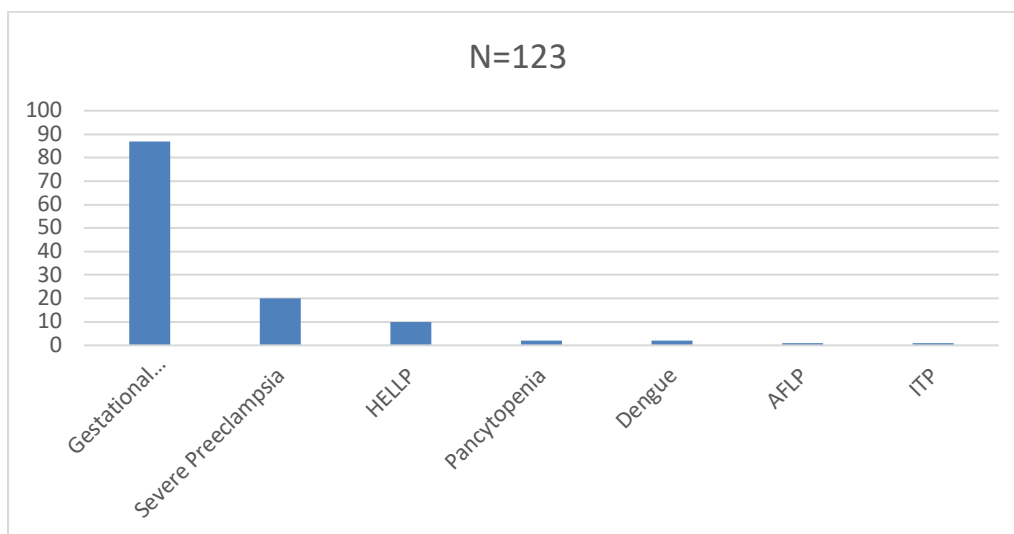


Figure 1: Distribution of patients according to diagnosis

Of 123 patients, 31 (25.2%) required a platelet transfusion, while the majority, 95 patients (74.8%), did not need platelet transfusion. Of 123 patients, 12 (9.7%) required ICU admission. While, 111 patients (81.3%) did not require ICU admission. Out of 12 ICU admissions, majority of ICU admissions, 9 out of 12 i.e 75% were the patients with severe preeclampsia (partial HELLP). Among the 123 patients, 2 (1.63%) experienced maternal mortality. That 2 patients who had deaths were one with HELLP syndrome and the other with acute fatty liver of pregnancy. Among the 123 patients, 2 patient had Intrauterine Fetal Demise, out of remaining 121 live babies, 24 babies(21.14%) had Low birth weight i.e. <2.5kg birth weight. The birth weights of the remaining

patients ranged from 1.2 to 3.2 kg, with a mean birth weight of 2.64 ± 0.38 kg. Table 3 and Figure 2 depict the distribution of patients according to fetal outcome. Among the 123 patients, 2(1.62%) patients had IUD. Both the IUDs occurred in patients with severe preeclampsia (partial HELLP). Of the remaining 121 patients, majority of the babies i.e. 109 babies (86.50%) were well and mother side after delivery and 12(9.7%) babies were shifted to NICU. Out of these, 9 babies after treatment were discharged and 3(2.44%) had neonatal death. Out of 3 neonatal deaths, 2(66.67% of neonatal deaths) were seen in patients with severe preeclampsia and 1(33.33%) was seen in patient with AFLP.

Table 3: Distribution of patients according to fetal outcome

Fetal outcome	N=123
IUD	2
Babies motherside	109
NICU admission	N=12
Neonatal death	3
Babies discharged	9

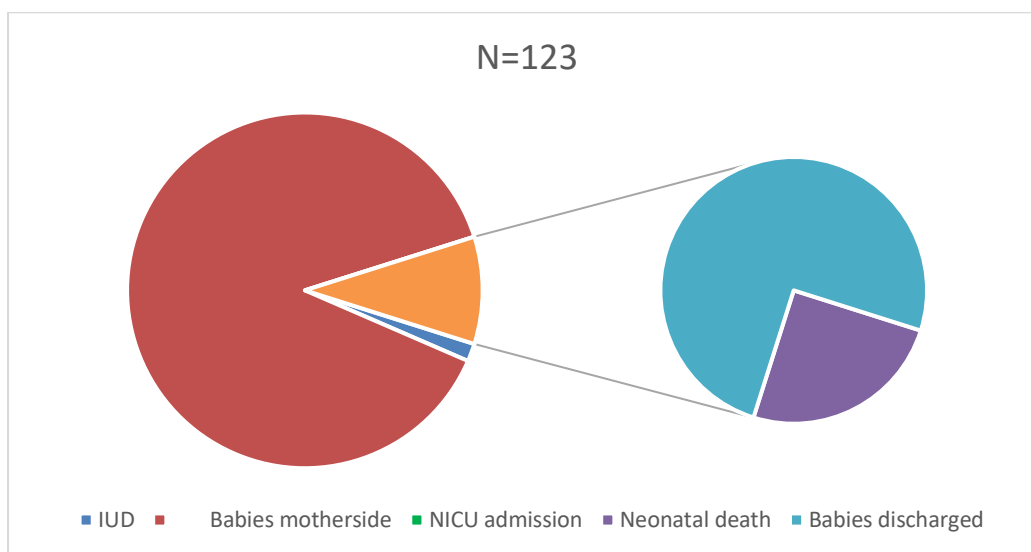


Figure 2: Distribution of patients according to fetal outcome

Discussion

The second most common hematological abnormalities during pregnancy are thrombocytopenia. It occurs in 7-8% of all pregnancies. Pregnant women with thrombocytopenia during pregnancy would have a platelet count of less than $100 \times 10^9/L$. Gestational thrombocytopenia is the most frequent cause of thrombocytopenia in pregnancy and requires vigilant monitoring in the clinic and reassurance to the patient. [1] The rate of thrombocytopenia in pregnant women is 4 times greater than that in non-pregnant women. [2] Therefore, timely diagnostic, preventive, and therapeutic measures are necessary for the effective management of thrombocytopenia during pregnancy. [3] The most com-

mon cause is gestational thrombocytopenia, which accounts for approximately 70% of cases. Hypertensive diseases, such as pre-eclampsia, eclampsia, and HELLP syndrome, account for 21% of all cases. Immune-mediated thrombocytopenia, including idiopathic thrombocytopenic purpura, accounts for 4.1% of cases and is relatively rare. However, these conditions can lead to significant morbidity and mortality. [5]

In the current study, the majority of patients were in the age group of 21-30 years (82.92%) followed by ≤ 20 years (11.38%). The least number of patients had an age >30 years (5.6%). The patient's age ranged from 19 to 35 years with a mean age of 24.04 ± 4.10 years. Following the current

investigation, likely Mushahary et al, [8] Tirago et al., [9] and Wang et al. [10] conveyed that the mean patient's age was 25.33 ± 2.90 , 26.1 ± 4.9 and 28.3 ± 4.2 years respectively. Furthermore, Sridhar et al. reported that the majority of patients were from the 21-30 years age group. [11] Thus, the majority of patients belong to the age group of 21-30 years.

In the current study, the majority of patients were residents of rural areas (63%), while the rest were from urban areas (37%). To support our findings, a similar study conducted by Mushahary et al, [8] and Tirago et al. [9] reported that the majority of women (91.9% and 61.2%, respectively) were urban residents and the remaining others from the rural side. Furthermore, Singh et al. conducted a study on tertiary rural areas. [12] Hence, from this study we can conclude that the majority of patients were residence in rural areas.

In the current study, the majority of patients belonged to the middle class (35.77%), followed by the lower middle class (24.39%), and the upper middle class (17.07%) according to Modified Kuppaswamy Scale. While least number of patients belonged to the upper class (12.20%) and the lower class (10.56%). Our health care centre being tertiary care centre all the subcentres from nearby villages and small towns refer all the high risk cases to our health care centre. Therefore the maximum number of the patient belong to middle class strata. So Comparable research conducted by Jena et al. supported our findings and reported the socioeconomic status was lower class (58.67%), while middle class (41.33%). [13] On the other hand, Mushahary et al. reported the majority of women were upper lower (50%), followed by lower (33.3%), lower middle (16.0%), and upper middle (0.7%). [8] Consequently, the majority of patients were in the middle-class group.

In the current study, the majority of patients experienced mild thrombocytopenia (54.47%), followed by moderate thrombocytopenia (33.33%). While the least number of patients had severe thrombocytopenia (12.20%). According to this study, the predominant form of thrombocytopenia was reported by Ebrahim et al, [14] and Tirago et al. [9] that mild thrombocytopenia accounted for major type (72.4% and 77.4%, respectively), followed by moderate (17.2%, and 16.1% respectively), while severe thrombocytopenia was (10.4% and 6.5%, respectively). Conversely, mild thrombocytopenia was reported by Mushahary et al, [8] Jena et al, [13] and Singh et al, [12] in women (24.6%, 12% and 35.55% respectively), followed by moderate (64.6%, 52% and 24.44% respectively), while severe thrombocytopenia was (10.6%, 36% and 40% respectively). Hence, the majority of patients experienced mild thrombocytopenia.

In the current study, the majority of patients were primigravida (57.72%) followed by multigravida (32.38%). To support our study, the similar findings by Jena et al., [15] and Singh et al. [6] conveyed that the parity of patients was primigravidae (48% and 41.11% respectively), followed by 2nd-4th gravid (40% and 53.33% respectively), and >4th gravid was (12% and 5.55% respectively). Furthermore, Mushahary et al. reported that the majority of women (59.3%) were primigravida. [8] On the other hand, Sridhar et al. described that the women were primigravida i.e., 40% and the remaining 60% were multigravida. [11]

In this study the majority of the patients were primigravida. In the present study, some patients needed platelet transfusion (25.20%), while the majority, did not need this intervention (74.8%). In the consensus with the present study, Mushahary et al. reported that (62.5%) of women with severe thrombocytopenia need blood and platelet transfusion, followed by moderate (40.9%), and mild (21.1%). [8] On the contrary, Singh et al. reported that only (0.76%) women need blood transfusion. [16] Thus, the blood transfusion depends on the patient's condition.

In the current study, some of the patients required ICU admission (9.7%). While (81.3%) of patients did not require ICU admission. To justify our findings, Qureshi et al. conveyed that (7.3%) were transferred to the ICU. [17] From this data we can say that majority of patients does not required ICU admission, while some minor patients need to required ICU admission.

In the current study, (1.63%) patients had experienced death. While the majority of patients survived (98.37%). In accordance with the present study, Qureshi et al, [17] and Prajapati et al. [18] reported that (2.1% and 4% respectively) maternal death was seen. From this data, we can conclude that some minor patients experience maternal death, while the majority of patients are survived.

In the current study, the majority of patients were diagnosed with gestational thrombocytopenia (70.73%) followed by severe pre-eclampsia (partial HELLP) (16.26%), HELLP syndrome (8.13%), Pancytopenia (1.62%), Dengue (1.62%), AFLP (0.81%) and ITP (0.81%). Similar research conducted by Chauhan et al. supported our findings and reported that gestational thrombocytopenia was the most common (68.2%), followed by PIH, ITP, and HELLP syndrome (26.3%, 3%, and 1.5% respectively). [19] Moreover, Jena et al. reported the majority of the women had thrombocytopenia due to gestational cause (48.0%) followed by obstetrical (28.0%) and medical (24.0%). [13] On the other hand, Prajapati et al. conveyed that (50%) of cases were gestational thrombocytopenia, followed by

hypertensive disorders, and IUFD was (31% and 13% respectively), while abruption, viral (dengue) and bacterial (malaria) infection was (8% each), and 2% with ITP, and (1% each) with SLE, and TTP. [18] From the data, it is evident that most of the patients were diagnosed with gestational thrombocytopenia, which was the leading condition in the group. This was followed by severe pre-eclampsia, and HELLP syndrome both of which contributed significantly.

In the current study, the majority of patients had normal delivery (60.16%) followed by LSCS (39.84%). In accordance with this study, a similar finding by Prajapati et al. conveyed that the majority had a spontaneous vaginal delivery (54%), while (33%) undergo for LSCS, (12%) were underwent induced vaginal delivery, and (1%) case was an instrumental vaginal delivery. [18] Furthermore, Chauhan et al. [19] as well as Jena et al. [13] reported that the majority of women had normal vaginal delivery (72% and 60% respectively), while (27.7% and 40% respectively) had cesarean section. Furthermore, Nisha et al. stated that (61.54%) had normal vaginal delivery, whereas (36.26%) had CS and (2.2%) had instrumental delivery. [12] From these findings the majority of the patients had a normal vaginal delivery, and some of the patients had gone for the CS.

In the current study, the birth weights of the delivered babies ranged from 1.2 to 3.2 kg, with a mean birth weight of 2.64 ± 0.38 kg. In this study, out of delivered live babies, 19.83% babies had low birth weight while 80.17% babies had birth weight ≥ 2.5 kg. Akin to this finding, a study conducted by Chauhan et al. reported that the mean weight of neonates was 2.84 ± 0.32 kg, with (92.3%) having appropriate weight, while (7.7%) had underweight. [19] Furthermore, Jena et al. [13] and Qureshi et al. [17] reported that (68% and 83.3% respectively) babies had normal body weight, while (38% and 16.7%) babies had low birth weight. From the data, we can conclude that the majority of babies had normal body weight, while some of the babies had low birth weight.

In the current study, 1.62% patients had an IUD. While the majority of patients did not have I;ulypreeclampsia (Partial HELLP). In accordance with this study, a similar study conducted by Anita et al.[20] and Singh et al.[16] conveyed that (14.28% and 4.4%) cases of fetal deaths were recorded. From this data, we can conclude that the majority of patients do not have these conditions, but minor patients have IUD.

In the current study, 2.44% neonates experienced neonatal death. A similar study by Chauhan et al.,[19] and Thakkar et al.[21] reported that early neonatal death was (1.53% and 5% respectively).

On the other hand, Prajapati et al. reported that 40% of cases are associated with neonatal death.[18] From these findings, neonatal death was experienced in a few patients, while the majority of patients did not suffer.

In the current study, 12 neonates (9.7%) required NICU admission while 86.5% neonates were mother-side after delivery. Out of these 12 NICU admissions, 9(7.34%) neonates after treatment were discharged and 3 (2.44%) had neonatal deaths. In accordance with this study, similar findings by Thakkar et al., [21] and Chauhan et al. [19] conveyed that the neonates required NICU admission was (14.73% and 6.15% respectively). Conversely, Pr

japati et al. [9] and Anita et al. [20] reported that (36.19% and 27.63% respectively) of neonates needed NICU admission.

Study Limitations

The smaller sample size in this study was one of its limitations. To communicate the findings of the research and follow-up in newborns, more studies are required. In the limitations of this study, the possibility that bias affected the results of this study must be considered. Differences in characteristics in women who opted for TOL, women with spontaneous onset of labour, and women who underwent ERCS might affect maternal and perinatal outcomes. Complications that occurred after discharge from the hospital may have been missed. We could not establish a cause-effect relationship between thrombocytopenia and the independent factors. Additionally, screenings for parasitic infections were not conducted. A large-scale longitudinal or follow-up study should be conducted by including other clinical variables to investigate their cause-effect relationship with thrombocytopenia in pregnant women.

Conclusion

The present study revealed that prevalence of thrombocytopenia in Tertiary Care Centre where this study was conducted in Central India 9.8%. Pregnant patients with thrombocytopenia are associated with increased risk of maternal and neonatal morbidity and mortality. So Careful surveillance of these thrombocytopenic mothers and their babies should be done in order to establish the aetiology and timely appropriate management.

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