



Research

# Thrombocytopenia in pregnancy: Experience from a tertiary care centre of a tier 2 City in South India

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## 1. Background

Platelet count below 1.5 lakh/cu.mm is defined as thrombocytopenia. Thrombocytopenia occurs in 6–10% of all pregnant women and is the most prevalent haematological disorder during pregnancy after anemia. During pregnancy, platelet counts may naturally decrease slightly due to hemodilution and increased platelet consumption. However, platelet counts below 1,50,000 may indicate thrombocytopenia and require further evaluation [1-5].

Pregnancy specific	Not specific to pregnancy
<ul style="list-style-type: none"><li>• Gestational thrombocytopenia</li><li>• Pre eclampsia/Eclampsia</li><li>• HELLP</li><li>• Acute fatty liver</li></ul>	<ul style="list-style-type: none"><li>• Primary immune thrombocytopenia</li><li>• Secondary immune thrombocytopenia</li><li>• Viral infection (HIV, Hepatitis C, CMV, EBV, others)</li><li>• Autoimmune disorders (SLE, others)</li><li>• Antiphospholipid antibodies</li><li>• Thrombotic microangiopathies</li><li>• Thrombotic thrombocytopenic purpura</li><li>• Hemolytic-uremic syndrome</li><li>• Disseminated intravascular coagulation (DIC)</li><li>• Bone marrow (MDS, myelofibrosis)</li><li>• Nutritional deficiencies</li><li>• Drugs</li><li>• Type II B vWD induced thrombocytopenia</li><li>• Inherited thrombocytopenia (May-hegglin etc)</li><li>• Hypersplenism</li></ul>

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## 2. Aim and objective

To assess the demographic details, underlying causes, management strategies, maternal and fetal outcomes in women with thrombocytopenia during pregnancy.

### 3. Materials and methods

This study was conducted in the Department of Obstetrics and Gynaecology, KMC Specialty Hospital, Trichy

Of 53 pregnant women with thrombocytopenia were retrospectively studied in the time frame of January 2022–May 2024. Platelet counts were obtained by automated Coulter and rechecked manually in case of thrombocytopenia. A structured proforma was used to gather data on patient demographics, complete obstetric history, including prior antenatal records

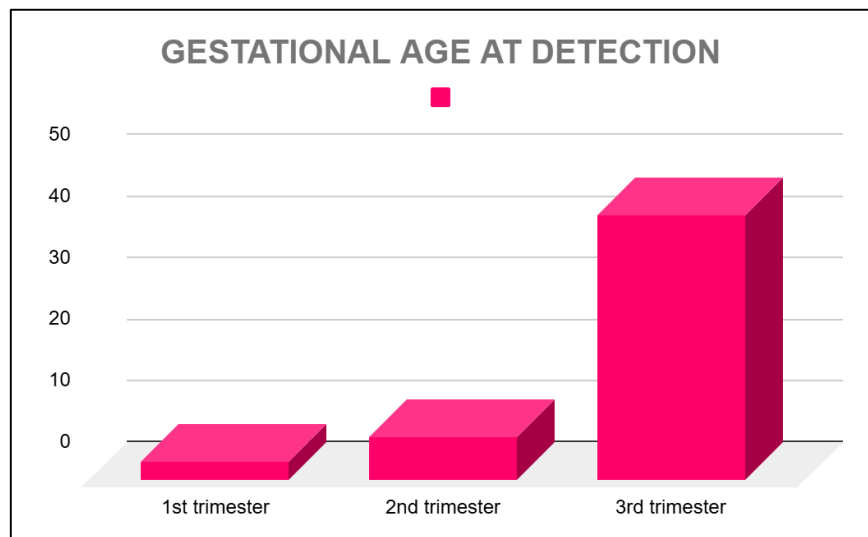
All patients underwent clinical examination and routine laboratory tests-including complete blood count, peripheral smear, liver function tests, coagulation profile, and antinuclear antibodies with viral serology conducted on a selective basis. Obstetric evaluation and interventions were performed as necessary

### 4. Results

<b>Mean age of detection (SD)</b>	27.5+/-4.6	
Parameters	n = 53	Percentage (%)
<b>Obstetric code</b>		
Primigravida	25	47%
Multigravida	28	53%
Previous obstetric history	n = 28	%
Gestational thrombocytopenia	7	25%
HELLP	1	4%
No significant obstetric history	20	71%

#### 4.1. Gestational Age at Diagnosis

Gestational age at diagnosis	n = 53	Percentage (%)
1st trimester	3	6%
2nd trimester	7	13%
3rd trimester	43	81%



#### 4.2. Severity

Severity	n = 53	Percentage (%)
Mild	21	40%
Moderate	18	34%

Severe	14	26%
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#### 4.3. Etiology

Etiology	n = 53	Percentage (%)
<b>Specific to pregnancy</b>		
Gestational thrombocytopenia	16	30%
HELLP	5	9%
<b>Non-specific to pregnancy</b>		
Primary Immune Thrombocytopenia(ITP)	14	26%
APLA	4	8%
SLE	3	6%
SLE/APLA	4	8%
Dengue fever	7	13%

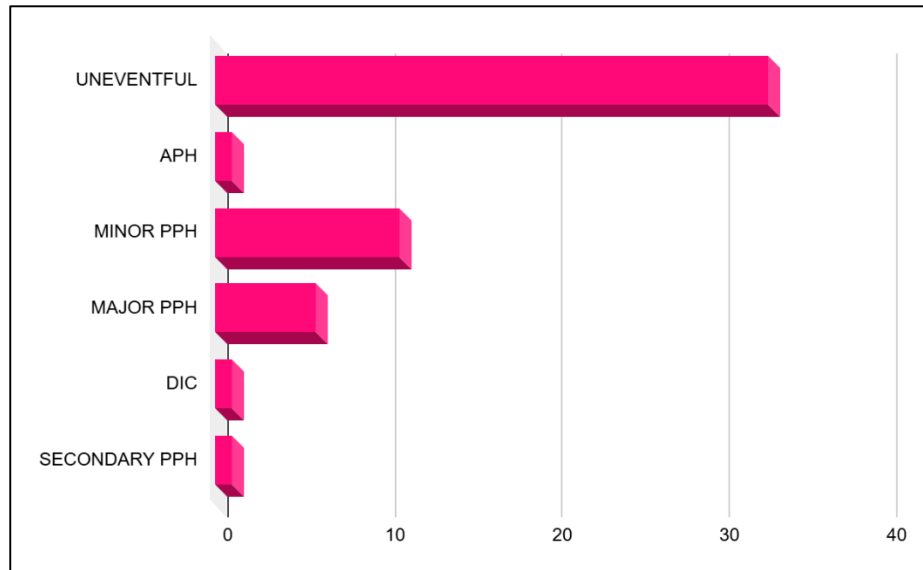
Treatment	Gesta- tional throm- bocyto- penia (16)	HELLP (5)	ITP (14)	APLA (4)	SLE (3)	SLE + APLA (4)	Den- gue (7)	Total % (100%)
Observation	16	-	-	-	-	-	-	30%
Steroid	-	-	4	-	-	-	-	8%
IVIG	-	-	1	-	-	-	-	2%
Steroid + IVIG	-	-	1	-	-	-	-	2%
Immunomodulator	-	-	1	-	-	-	-	2%
Immunomodulator + Seroid	-	-	4	-	3	2	-	17%
Thrombopoietin receptor stimulator	-	-	3	-	-	-	-	5%
Anticoagulants	-	-	-	4	-	2	-	11%
Others	-	5	-	-	-	-	7	23%

#### 4.4. Transfusion analysis

Cause	Transfusion		No transfusion	
	No. of cases	%	No. of cases	%
Gestational thrombocytopenia (16)	2	12%	14	88%
ITP (14)	4	29%	10	71%
HELLP (5)	3	60%	2	40%
APLA (4)	2	50%	2	50%
SLE (3)	0	-	3	100%
APLA +SLE (4)	1	25%	3	75%
Dengue (7)	2	29%	5	71%

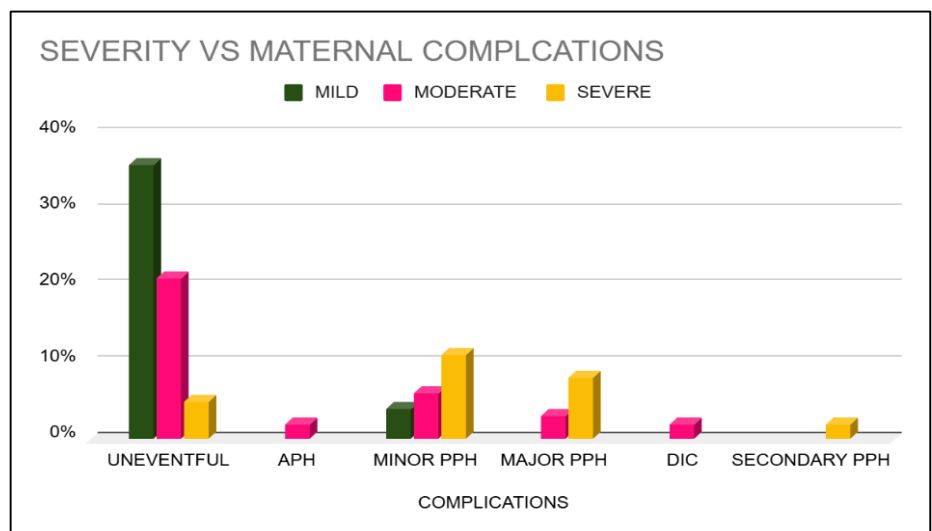
#### 4.5. Maternal outcomes

Maternal outcomes	Number of cases	%
Uneventful	33	62%
APH	1	2%
Minor PPH	11	21%
Major PPH	6	11%
DIC	1	2%
Secondary PPH	1	2%



**4.5. Severity in maternal outcomes**

Complications	Severity		
	Mild (40%)	Moderate (34%)	Severe (26%)
Uneventful (62%)	36%	21%	5%
APH (2%)	-	2%	-
Minor PPH (21%)	4%	6%	11%
Major PPH (11%)	-	3%	8%
DIC (2%)	-	2%	-
Secondary PPH (2%)	-	-	2%



**4.6. Fetal Outcomes**

Fetal outcomes	n = 53	%
Nil complications	32	60%
ITP	6	11%
Preterm	8	15%

FGR	4	8%
Sepsis	2	4%
Intracranial haemorrhage	1	2%

## 5. Discussion

In this study, the prevalence of thrombocytopenia among pregnant women was 5.9% (53/980). The mean age at diagnosis was  $27.5 \pm 4.5$  years. In that participants, majority were multigravida accounting for 53% (28/53), with 29% (8/28) having significant obstetric histories. 81% (43/53) were diagnosed with thrombocytopenia during their third trimester

Among severity, 26% (14/53) had severe thrombocytopenia. Regarding etiology, the most common etiology being gestational thrombocytopenia- 30% (16/53); which is specific to pregnancy. 26% had primary immune thrombocytopenia (14/53) which is non-specific to pregnancy.

Women with gestational thrombocytopenia were monitored closely for any decline in platelet count, while various medications were administered to ITP patients to increase their platelet levels throughout pregnancy. Major postpartum hemorrhage (PPH) occurred in 4 out of 14 patients with severe thrombocytopenia and 2 out of 18 patients with moderate thrombocytopenia, both of which were effectively managed. Secondary PPH was observed in one patient with severe thrombocytopenia.

Among the 14 mothers with ITP, 6 babies who were diagnosed with ITP, and one baby from an ITP mother experienced an intracranial hemorrhage leading to early neonatal death. Our findings reveal that thrombocytopenia is a significant concern in pregnancy, with varying etiologies and implications for both maternal and fetal health. The data highlight the need for accurate and timely diagnosis to ensure effective management and improve outcomes.

A substantial proportion of the cases were associated with conditions such as preeclampsia and gestational thrombocytopenia, emphasizing the importance of distinguishing between different causes of thrombocytopenia to tailor appropriate interventions. Despite challenges, many patients experienced favorable outcomes with appropriate treatment and monitoring

## Conclusion

Future efforts should focus on improving awareness, refining diagnostic criteria, and optimizing treatment protocols to better address thrombocytopenia in pregnancy. It's a challenge to manage thrombocytopenia in pregnancy especially when patients present late in third trimester to a referral centre in a tier 2 city. It's possible to handle these patients with a multidisciplinary team for a fruitful outcome.

## References

- [1] <http://dx.doi.org/10.18203/2320-1770.ijrcog20201234>
- [2] <https://doi.org/10.1182/blood-2017-05-781971>
- [3] [https://www.researchgate.net/profile/Bethan\\_Myers/publication/259408620\\_Diagnosis\\_and\\_management\\_of\\_thrombocytopenia\\_in\\_pregnancy/links/5435003b0cf2dc341daf62b4/Diagnosis-and-management-of-thrombocytopenia-in-pregnancy.pdf](https://www.researchgate.net/profile/Bethan_Myers/publication/259408620_Diagnosis_and_management_of_thrombocytopenia_in_pregnancy/links/5435003b0cf2dc341daf62b4/Diagnosis-and-management-of-thrombocytopenia-in-pregnancy.pdf)
- [4] <https://imsear.searo.who.int/server/api/core/bitstreams/cc78ffa3-9cf1-43d5-8716-d81fece7fe61/content>
- [5] <https://www.scielo.br/j/rbgo/a/yb94BBH35j5CdPhbJ9HgZxq/?format=pdf&lang=en>