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Original Research Article

Prevalence of Gestational thrombocytopenia in five cities of India: A cross sectional descriptive study

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ABSTRACT

Background: Pregnancy is a wonderful event of a women life, where in a female prepare herself to give birth to child. The physiological changes in blood include a rise in erythrocytes and a decrease in platelets, which results in the condition known as thrombocytopenia, where the platelet counts are fewer than a few lakhs and bring on bleeding symptoms. The decreased platelet during pregnancy is called gestational thrombocytopenia.
Objectives: The present study aims to find the prevalence of the gestational thrombocytopenia in India.
Materials and Methods: A cross sectional descriptive study design used to identify the prevalence rate of the gestational thrombocytopenia in India, total 3952 samples from India like Lucknow, Panipat, Sonipat, Gohana, Delhi.
Results: The study found that the prevalence of gestational thrombocytopenia is 3.4%. During the study period records revealed that 37 women (27%) belonged to gestational age of 30-33 weeks, 30 women (21%) belonged to gestational age of 34-36 weeks and 70 women (51%) belonged to gestational age of 37-40 weeks. Thirty-five (25.5%) cases had mild thrombocytopenia, 22 women (16%) had moderate, and 80 women (58.7%) had severe thrombocytopenia.
Conclusion: The present study assessed the prevalence of the gestational thrombocytopenia at various cities in India, suggested the importance of the early identification of gestational thrombocytopenia and prevention of complications related to gestation and pregnancy outcome

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1. Introduction

A common haematological disease is thrombocytopenia, which is defined as a platelet count of fewer than 150,000 per litre.[1–4] The most prevalent haematological disorder in pregnancy, it is second only to anaemia.[5–7]

Gestational thrombocytopenia is condition with platelets count less than 50000 in a pregnant women, the incidence is asymptomatic and occurs in second half of pregnancy,[8,9] in the absence of history of thrombocytopenia the of platelets count returns to normal level within two months of postpartum.[10,11] The gestational thrombocytopenia is not associated with maternal or fetal risk.[12–15] Even after less risk for mother and child the gestational thrombocytopenia can be serious issue and can cause potential problems[5] to mother during labor and postpartum period, hence the prevalence is essential to understand so the present study aim to learn the prevalence of gestational thrombocytopenia

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in India.

2. Objectives

The present study is aimed to assess the prevalence of gestational thrombocytopenia in various cities of India.

3. Materials and Methods

A cross sectional designed to assess the prevalence of gestational thrombocytopenia in India for a period of 6 months from January 2022 to June 2022. A total of 3952 women were investigated from various cities in India like Lucknow, Panipat, Sonipat, Gohana, Delhi. Blood sample was withdrawn. Platelet count was performed using manual method and automated hematology method.

3.1. Inclusion criteria

1. All pregnant women were included in the study

3.2. Exclusion criteria

1. Pregnant or non- pregnant women having diabetes or thrombo-embolic disorders were excluded from the study

4. Results

The present study designed to assess the prevalence of gestational thrombocytopenia. The following are the findings of the study.

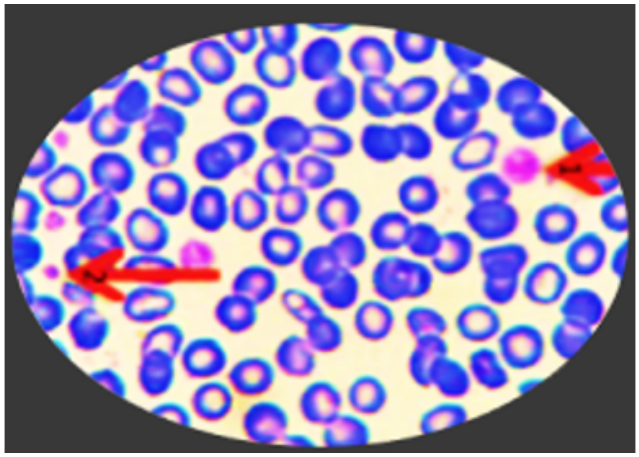


Fig. 1: Arrow 1 indicates Giant thrombocyte, Arrow 2 indicates normal thrombocyte and arrow

Table 1 describes the distribution of gestational thrombocytopenia cases at various selected cities ofIndia, in Lucknow total 645 samples were collected of them 28 samples, in Panipat total 978 samples were collected 39 samples, in Sonipat total 967 samples were collected of them 36 samples, in Gohana total 597 samples were collected of them 15 samples and in Delhi total 765 samples were collected of them 19 samples were gestational thrombocytopenia respectively.

Table 1: Describes the distribution of the gestational thrombocytopenia cases at various cities under study.

S.No.	City	Number of samples	Number of gestational thrombocytopenia	Percentage
1	Lucknow	645	28	4.3
2	Panipat	978	39	3.9
3	Sonipat	967	36	3.7
4	Gohana	597	15	2.5
5	Delhi	765	19	2.4
Total		3952	137	3.4

The study also found that prevalence of gestational thrombocytopenia in total samples of 3952, at Lucknow is 4.3%, Panipat is 3.9%, Sonipat is 3.7%, Gohana is 2.5%, Delhi is 2.4% respectively and total prevalence of gestational thrombocytopenia represented in pie diagram. The study also found that prevalence of gestational thrombocytopenia is 3.4%.

Table 2: hows demographic and obstetrical profile

Parameters		No. of cases	%
Gestational age (weeks)	30-33	37	27
	34-36	30	21
	37-40	70	51
Severity of thrombocytopenia	Mild	35	25.5
	Moderate	22	16
	Severe	80	58.7

Table 2 shows demographic and obstetrical profile. During the study period records revealed that 37 women (27%) belonged to gestational age of 30-33 weeks, 30 women (21%) belonged to gestational age of 34-36 weeks and 70 women (51%) belonged to gestational age of 37-40 weeks. Thirty-five (25.5%) cases had mild thrombocytopenia, 22 women (16%) had moderate, and 80 women (58.7%) had severe thrombocytopenia.

5. Discussion

The present study aimed to study the prevalence of the gestational thrombocytopenia in various cities of India. The study conducted for a period of 6 month from January 2022 to June 2022 collected 3952 pregnant samples of which 137 samples showed gestational thrombocytopenia.

The present study designed to assess the distribution of the prevalence of the gestational thrombocytopenia found that the prevalence at Lucknow is 4.3%, Panipat is 3.9%, sonipatis 3.7%, Gohana is 2.5%, Delhi is 2.4% and the overall prevalence of gestational thrombocytopenia is 3.4%, these findings were like the study.[16–18] Furthermore,

Records for the research period showed that 70 women (51%) were gestational age 37–40 weeks, whereas 37 women (27%) were in the 30-33 week, 34–36 week, and 37–40 week ranges. In 35 cases (25.5%), the thrombocytopenia was mild, in 22 cases (16%), it was moderate, and in 80 cases (58.7%), it was severe.

6. Conclusion

Gestational thrombocytopenia can cause due to number of causes, the knowledge of prevalence of gestational thrombocytopenia can prevent the complication related to decreased platelets, bleeding is the major complication can be life threatening and demanding emergency care, the present study found that prevalence of gestational thrombocytopenia as 3.4% which is evident by other studies. This prevalent gives relevant information to control and prevent the complications, disorder and manage mother and newborn care and well-being

7. Conflict of Interest

There are no conflicts of interest in this article.

8. Source of Funding

None.

References

1. Haile K, Kebede S, Abera T, Timerga A, Mose A. Thrombocytopenia Among Pregnant Women in Southwest Ethiopia: Burden, Severity, and Predictors. *J Blood Med*. 2022;13:275–82. doi:10.2147/JBM.S365812.
2. Wodaje M, Tadele N, Lijaemiro H, Demtse A, Birhanu D, Tadele H, et al. Prevalence of Thrombocytopenia and Its Associated Factors Among Neonates Admitted in Neonatal Intensive Care Unit of Addis Ababa Public Hospitals, Ethiopia 2020/21(Cross Sectional Study). *Res Square*. 2022;doi:10.21203/rs.3.rs-1431306/v1.
3. Odhiambo BM. Prevalence, Risk Factors and Timing of Occurrence of Stillbirths Among Patients With Hypertensive Disorders of Pregnancy at Kenyatta National Hospital in 2018-2019; a Cross-sectional Study (Doctoral dissertation, University of Nairobi); https://shorturl.at/ilCS5.
4. Iqbal Z, Memon SS, Maheshwari JD, Zafar U, Lathiya N, Khalid SS, et al. Comparison of Clinical and Biological/Laboratory Findings of Malaria and Dengue Infection in Karachi. A Cross Sectional Survey. *Pak J Med Health Sci*. 2022;16(9):933.
5. Getawa S, Getaneh Z, Melku M. Thrombocytopenia among pregnant women in Africa: a systematic review and meta-analysis. *The Pan African Med J*. 2022;41:334. doi:10.11604/pamj.2022.41.334.30175.
6. Kebede SS, Yalew A, Yesuf T, Melku M, Bambo GM, Woldu B, et al. The magnitude and associated factors of immune hemolytic anemia among human immuno deficiency virus infected adults attending University of Gondar comprehensive specialized hospital north west Ethiopia 2021 GC, cross sectional study design. *PLoS One*. 2022;17(10):e0274464. doi:10.1371/journal.pone.0274464.
7. Boehlen F, Hohlfeld P, Extermann P, Perneger TV, De Moerloose P. Platelet count at term pregnancy: a reappraisal of the threshold. *Obstet Gynecol*. 2000;95(1):29–33.
8. Nisha S, Amita D, Uma S, Tripathi AK, Pushplata S. Prevalence and characterization of thrombocytopenia in pregnancy in Indian women. *Indian J Hematol Blood Transfus*. 2012;28(2):77–81.
9. Fay RA, Hughes AO, Farron NT. Platelets in pregnancy: hyperdestruction in pregnancy. *Obstet Gynecol*. 1983;61(2):238–40.
10. Verdy E, Bessous V, Dreyfus M, Kaplan C, Tchernia G, Uzan S, et al. Longitudinal analysis of platelet count and volume in normal pregnancy. *Thromb Haemost*. 1997;77(4):806–7.
11. Provan D, Stasi R, Newland AC, Blanchette VS, Bolton-Maggs P, Bussel JB, et al. International consensus report on the investigation and management of primary immune thrombocytopenia. *Blood*. 2010;115(2):168–86. doi:10.1182/blood-2009-06-225565.
12. Gernsheimer T, James AH, Stasi R. How I treat thrombocytopenia in pregnancy. *Blood*. 2013;121(1):38–47. doi:10.1182/blood-2012-08-448944.
13. Burrows RF, Kelton JG. Fetal thrombocytopenia and its relation to maternal thrombocytopenia. *N Engl J Med*. 1993;329(20):1463–6.
14. Nathan N, Sol I, Vincelot A, Collet D, Granchamp P, David E, et al. Is a biological assessment necessary to realize an obstetrical epidural anaesthesia in a patient whose interrogation and clinical examination are strictly normal? *Ann Fr Anesth Reanim*. 2007;26(7-8):705–10.
15. Schwartz RS. Immune thrombocytopenic purpura-from agony to agonist. *N Engl J Med*. 2007;357(22):2299–301. doi:10.1056/NEJMe0707126.
16. Gisbert JP. Safety of immunomodulators and biologics for the treatment of inflammatory bowel disease during pregnancy and breast-feeding. *Inflamm Bowel Dis*. 2010;16(5):881–95. doi:10.1002/ibd.21154.
17. Nefmert C, Crowther MA. The American Society of Hematology 2011 evidence-based practice^ miideline for immune thrombocytopenia. *Blood*. 2011;117:4190–207.
18. Ebrahim H, Kebede B, Tilahun M, Debash H, Bisetegn H, Tesfaye M, et al. Magnitude and Associated Factors of Thrombocytopenia among Pregnant Women Attending Antenatal Care Clinics at Dessie Comprehensive Specialized Hospital, Northeast Ethiopia. *Clin Appl Thrombosis/Hemostasis*. 2022;doi:10.1177/10760296221097379.

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