

Analysis of Thrombocytopenia in Pregnancy: Etiology, Fetal & Maternal Outcome

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Abstract: Introduction: Platelet count below 1.5 lakh/cu mm is called as thrombocytopenia. After anemia it is the second most common hematological disorder in pregnancy of 6-10% incidence. Gestational thrombocytopenia is the most common clinically benign thrombocytopenic disorder usually occurring in late pregnancy. 1) After anemia it is the second most common hematological disorder in pregnancy. 2) It affects nearly 6 to 15%; on an average 10% of all pregnancies. 3) Thrombocytopenia is categorized into:[2] a) MILD-1lakh to 1.5lakh/cu mm b) MODERATE-50,000 to 1lakh/cu mm c) SEVERE-less than 50,000/cu mm 4) The aim of antenatal management in patients with thrombocytopenia is to achieve and maintain a 'safe' rather than normal platelet count.[3] 5) The current guidelines consider that vaginal delivery is safe when platelet count is higher than 30,000/cu mm. For operative vaginal or cesarean deliveries, the safe platelet count should be at least 50,000 platelets/cu mm [4] 6) The exact platelet number needed to achieve a safe epidural anesthesia is debated, but in most guidelines, the reference value is around 75,000-80,000/cu mm. 7) Major mechanisms for thrombocytopenia are decreased production and increased destruction of platelets, platelet sequestration, and haemodilution. 8) Thrombocytopenia may also be the primary manifestation of viral infections (HIV, EBV, CMV) or result of adverse reaction of certain drugs (heparin, antibiotics, nonsteroidal anti-inflammatory drugs, diuretics). Maternal outcomes such as placental abruption, Post Partum Haemorrhage (PPH), Coagulation abnormalities and need for blood transfusions were studied. Fetal outcomes including Respiratory distress (RD) to baby, Meconium Aspiration Syndrome (MAS), admission to the Neonatal intensive care unit (NICU) and Intrauterine Demise (IUD) were studied. Objectives: To determine etiology of thrombocytopenia in pregnancy and to study fetomaternal outcome. Materials/Methods: A prospective observational study was conducted for 2 months in June, July 2022 in the department of Obstetrics and Gynecology, Government General Hospital, Nizamabad. All pregnant women admitted with platelet count below 1.5lakh/ cu mm in third trimester were included in this study. Results: Out of 1156 patients taken for study, 71(6.1%) were found to have thrombocytopenia. Gestational thrombocytopenia accounted for majority (70.44%) of cases of thrombocytopenia in pregnancy followed by hypertensive disorders (28.16%) and ITP (1.4%). Among 71patients with thrombocytopenia, there were no complications in 49.29% patients, most common is PPH (47.8%), followed by coagulation failure, abruption, HELLP and AKI. There were no neonatal complications in 47.8% cases, respiratory distress in 23.94% cases, intra uterine death in 7.04% cases and others (38.02%).

Keywords: thrombocytopenia, platelets, pregnancy, maternal, foetal, gestational

Chart 1: Distribution of women according to platelet count

- Out of seventy-one (71) patients, majority had mild thrombocytopenia (forty-six (46) patients -64.7%)
- Nineteen (19) patients had moderate thrombocytopenia-26.7%
- Only Six (6) patients were found to have severe form of thrombocytopenia-8.45%

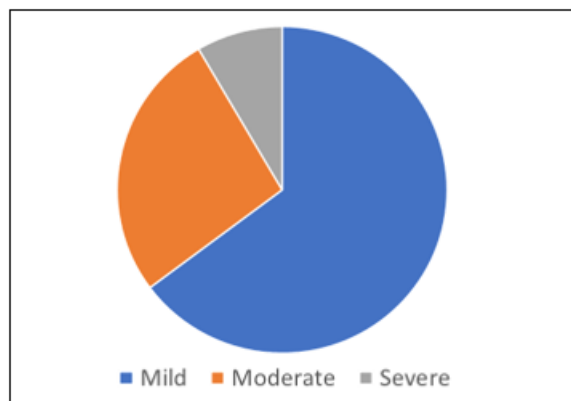
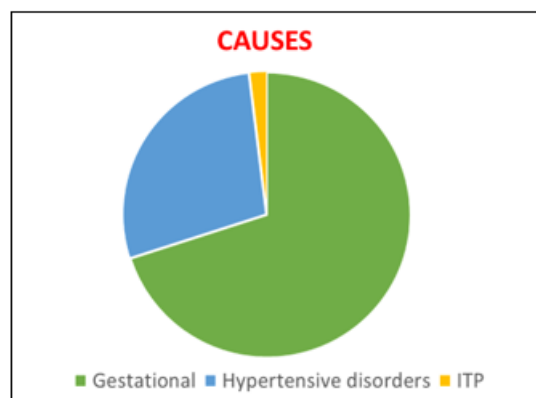


Chart 2: Distribution of women according to causes

- Of seventy-one (71) cases of thrombocytopenia, majority (50) are because of Gestational thrombocytopenia (70.4%)

- Twenty (20) cases were seen with hypertensive disorders (28.16%)
- One (1) case was associated with chronic ITP (1.4%)



Demographic and obstetric profile

- Of seventy-one (71) deliveries, sixteen (16) (22.53%) were preterm deliveries and fifty-five (55) (77.46%) were term deliveries.
- Of sixteen (16) preterm deliveries, nine (9) had preeclampsia, two (2) had eclampsia and others had gestational thrombocytopenia.

- Of seventy-one (71) patients, twenty-six (26) (36.61%) were primigravidae, twenty-seven (27) (38.02%) were second gravida and eighteen (18) (25.35%) were more than second gravida.

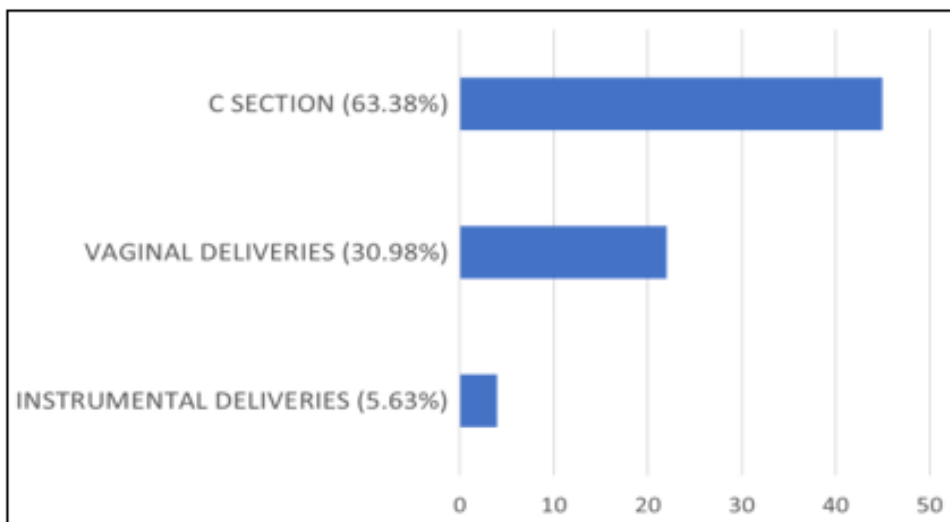


Diagram 1: Mode of delivery

- Thrombocytopenia per se does not affect mode of delivery.
- Out of seventy-one (71) cases, twenty-two (30.98%) had vaginal delivery, forty-five (63.38%) had caesarean section (CS) and four (5.63%) had instrumental deliveries.
- All the caesarean sections were performed for obstetric/medical indications and none for thrombocytopenia.

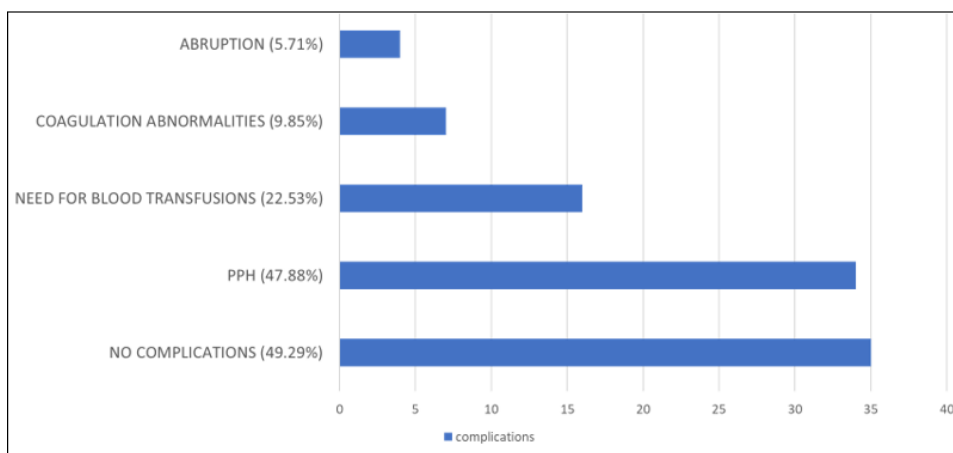


Diagram 2: Maternal Complications

- Out of thirty five (35) patients with no maternal complications, thirty (30) had Gestational thrombocytopenia and five (5) had Hypertensive disorders.
- In this study, Post Partum Hemorrhage (PPH) is the most common complication seen. Of thirty four (4) cases, twenty three (23) had Hypertensive disorders, Ten (10) had Gestational thrombocytopenia and one (1) had ITP.
- Transfusion of Random Donor Platelets (RDP's) and Single Donor platelet (SDP) was done to those with moderate and severe thrombocytopenia. Whole blood was given to those patients having anemia with thrombocytopenia.
- Coagulation Abnormalities and Abruption were associated with Preeclampsia, Eclampsia and HELLP syndrome.

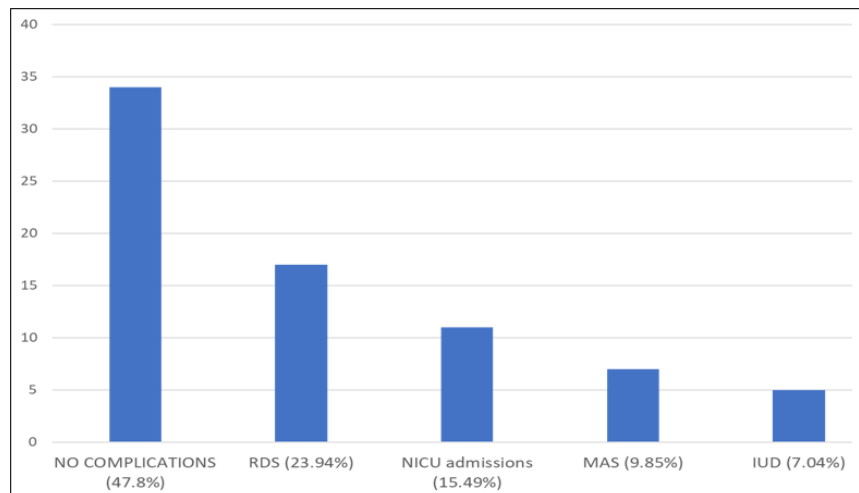


Diagram 3: Fetal complications

- Of thirty four (34) deliveries with no fetal and neonatal complications, thirty (30) had Gestational thrombocytopenia and four (4) had hypertensive disorders.
- Of Seventeen (17) babies with Respiratory Distress, nine (9) mothers had Hypertensive disorders, one (1) had severe thrombocytopenia (20,000), one (1) had chronic ITP and remaining had Gestational thrombocytopenia who were resuscitated were few hours.
- Out of Sixteen (16) preterm delivered babies, eleven (11) were admitted in NICU for 2-3 days.
- Out of Seven (7) babies who had MAS, five (5) were Low Birth Weight babies whose mothers had Hypertensive disorders who had Intra Uterine Growth Restriction.
- Out of five (5) IUD babies, all of the mothers had hypertensive disorders of which three (3) were complicated by abruptio placentae.

Conclusion

- Maternal and perinatal wellbeing is the desirable outcome in all pregnancies.[2]
- In pregnancy with thrombocytopenia, Gestational thrombocytopenia is the commonest and benign condition which does not alter the obstetrical management.[5]
- Gestational thrombocytopenia is associated with better maternal and perinatal outcome as compared to preeclampsia and HELLP syndrome which expose them to life threatening complications may be due to their associated inherent problem such as placental abruption, postpartum hemorrhage, Respiratory distress, Preterm deliveries and IUD.
- Proper antenatal care and institutional deliveries enable obstetricians to diagnose thrombocytopenia and its complications at an early stage and early intervention results in better outcome.[2]
- Early interdisciplinary evaluation of thrombocytopenia in pregnancy is required for optimal care of mother and the

neonate as risk varies greatly depending on cause of thrombocytopenia.[6]

References

- [1] Williams textbook of obstetrics, 25th edition
- [2] Misra D, Faruqi M. Fetomaternal outcome in pregnancy with gestational thrombocytopenia: a cross sectional study. *Int J Reprod Contracept Obstet Gynecol* 2020;9:xxx-xx.
- [3] Diagnosis and management of maternal thrombocytopenia in pregnancy-British journal of Haematology
- [4] Ciobanu AM, Colibaba S, Cimpoca B, Peltecu G, Panaitescu AM. Thrombocytopenia in Pregnancy. *Maedica (Bucur)*. 2016;11(1):55-60.
- [5] Chauhan V, Gupta A, Mahajan N, Vij A, Kumar R, Chadda A. Maternal and fetal outcome among pregnant women presenting with thrombocytopenia. *Int J Reprod Contracept Obstet Gynecol* 2016;5:2736-43.
- [6] Dr. Meenakshi Chauhan, Dr. Sushila Chaudhary, Dr. Kavita Mehta, Dr. Vani Malhotra, Dr. Smiti Nanda, Dr. Vandana Rani. A prospective study to evaluate the role of maternal thrombocytopenia on maternal and fetal outcome. *Int J Clin Obstet Gynaecol* 2021;5(2):127-133. DOI: 10.33545/gynae.2021.v5.i2c.876

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