WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 8, Issue 3, 737-746. Review Article ISSN 2277– 7105

PERINATAL OUTCOME IN PREGNANCIES COMPLICATED WITH THROMBOCYTOPENIA

Dr. Sanjivani Wanjari*, Dr Priyanka Kumari and Dr. Ayesha Master

India.

Article Received on
13 Jan. 2019,

Revised on 02 Feb. 2019,
Accepted on 22 Feb. 2019

DOI: 10.20959/wjpr20193-14439

***Corresponding Author**
Dr. Sanjivani Wanjari
India.

KEYWORDS: Thrombocytopenia, pregnancy, low platelets, perinatal outcome, gestational thrombocytopenia.

INTRODUCTION

Thrombocytopenia, defined as a platelet count of <1.50 Lacs/cumm, is a common hematologic abnormality during pregnancy, with an incidence of 6.6%.[1] It occurs four times more frequently in pregnancy than in the non-pregnant women population. A low platelet count is often an incidental finding, however it may indicate a coexisting systemic or gestational disorder. Intervention may become necessary in a few cases due to reduce risk to the mother and foetus. The causes of thrombocytopenia in pregnancy are diverse, and the clinical features vary widely. Timely analysis of the cause and appropriate therapy should effectively improve the prognosis of pregnancies. Thrombocytopenia in pregnancy can be classified as mild with a platelets count of 1- 1.5 lacs/cumm, moderate at 50,000 to 1 lacs/cumm and severe at less than 50,000/cumm. Signs of thrombocytopenia usually occurs when platelet counts are less than 50,000/cumm, like petechiae, nose bleeds, haematuria, GI bleeding. Gestational thrombocytopenia is defined as a mild thrombocytopenia, occurring during the third trimester of pregnancy with spontaneous resolution postpartum and no neonatal thrombocytopenia. This is the most common cause of thrombocytopenia during pregnancy but a low platelet can also be associated with several diseases, either pregnancy specific or not, such as preeclampsia, HELLP syndrome, or idiopathic thrombocytopenic purpura (ITP).

Gestational thrombocytopenia is considered the most prevalent cause of thrombocytopenia in pregnancy and accounts for about 75% cases of thrombocytopenia during pregnancy.[2] Thrombocytopenia may also be a sign of complex clinical disorders that are unique to pregnancy, such as preeclampsia and haemolysis, elevated liver enzymes, and low platelet

count (HELLP) syndrome. Furthermore, autoimmune diseases, including systemic lupus erythematosus, antiphospholipid syndrome, thrombotic thrombocytopenic purpura–hemolytic uremic syndrome, and immune thrombocytopenia (ITP) may relapse or be first detected during pregnancy. Moreover, several observations support the hypothesis that gestational thrombocytopenia may be a mild and transient form of ITP.[3,4] Although a number of the pregnancy related conditions can be the cause of morbidity or even death, most instances of thrombocytopenia are benign. Thrombocytopenia in most instances is a condition which requires careful follow-up and does not require any aggressive treatment. Although thrombocytopenia diagnosed in pregnancy in most cases has a mild course, it may be associated with a higher rate of preterm birth and premature detachment of the placenta. In cases of severe thrombocytopenia with systemic involvement there can be associated risk of serious perinatal complications. Hence early diagnosis, careful monitoring and treatment are necessary.

Use of automated blood coulters in routine prenatal screening has resulted in an increased diagnosis. In many pregnancies, a low platelet count is first discovered during a complete blood cell count prior to delivery. Thrombocytopenia in pregnancy is underexplored in the Indian population. In our hospital we noticed that there was a sudden rise in the number of pregnant women reporting with thrombocytopenia. Hence we decided to study the perinatal outcome in these women. The present study was aimed at investigating perinatal outcome of pregnancies complicated by thrombocytopenia.

AIM

To assess the perinatal outcome in pregnancies complicated with thrombocytopenia.

OBJECTIVES

To assess the prevalence and aetiology of thrombocytopenia in the study population.

To assess the obstetric risk factors and mode of delivery.

To assess the perinatal outcome in pregnancies complicated with thrombocytopenia.

MATERIALS AND METHODS

Study design - retrospective study was done at a rural medical college and tertiary care referral centre.

Study population – 82 pregnant women with thrombocytopenia, who delivered in our hospital.

Study duration - was one year from 1st May 2017 to 30th April 2018.

Inclusion criteria - Women with thrombocytopenia- platelet count <1.5 lakhs were included in the study. The study population was divided into 3 groups.

1) Group 1 – platelets count < 50,000/cumm
2) Group2- platelets count 50,000 - 1 lac/cumm
3) Group 3- platelets count 1 - 1.5 lac/cumm

All our patients were in the 3rd trimester and had no symptoms. Thrombocytopenia was an incidental finding on routine CBC testing. Later confirmation was done by absolute platelets count by neubauer chamber method.

Exclusion criteria – women < 36 weeks of gestation.

The clinical details of all women were collected by reviewing their hospital records. The following perinatal outcomes were assessed:

1) Mode of delivery
2) Birth weight
3) Fetal distress
4) Admission to nicu
5) 1 minute and 5 minute Apgar scores.

RESULTS – of our study were as follows -

The study population was divided into 3 groups.

Group 1 – platelets count< 50,000/ cumm

Group2- platelets count 50,000 - 1 lac/cumm

Group 3- platelets count 1 -1.5 lac/cumm

Table I: Prevalence of thrombocytopenia in pregnant women.

Total deliveries	Thrombocytopenia	Prevalence
1384	82	5.92 %

Table II: Aetiology of thrombocytopenia: N=82 (n= 82).

Gestational thrombocytopenia	55	67.07%
Preeclampsia	22	26.83%
HELLP Syndrome	3	3.66%
Infection - suspected Dengue	2	2.44%

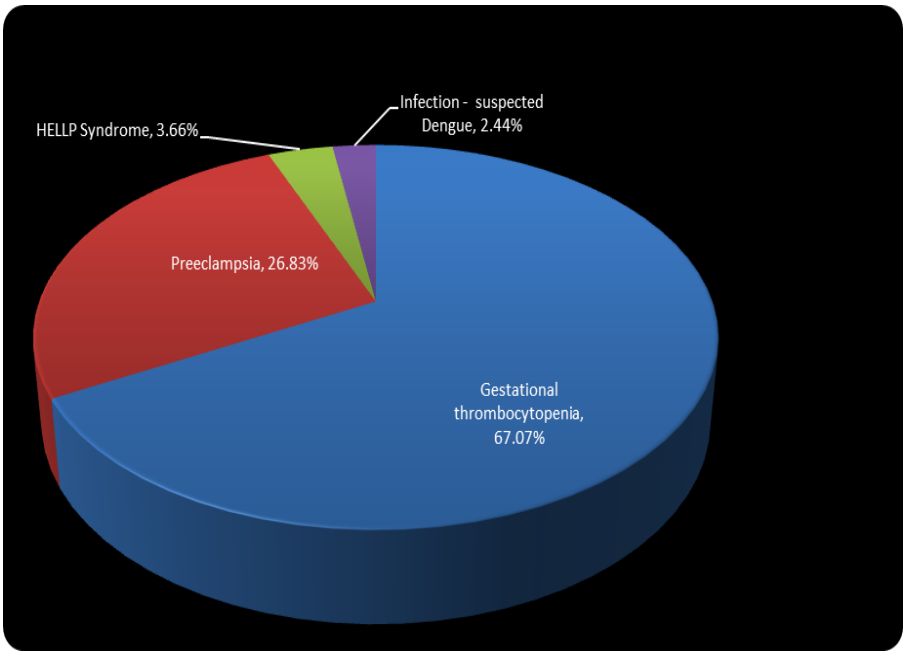


Table II: Distribution according to age: N = 82.

Age	Number	Percentage
< 20 YEARS	7	08.54%
20 - 30 YEARS	64	78.05%
>30 YEARS	11	13.41%
Total	82	100%

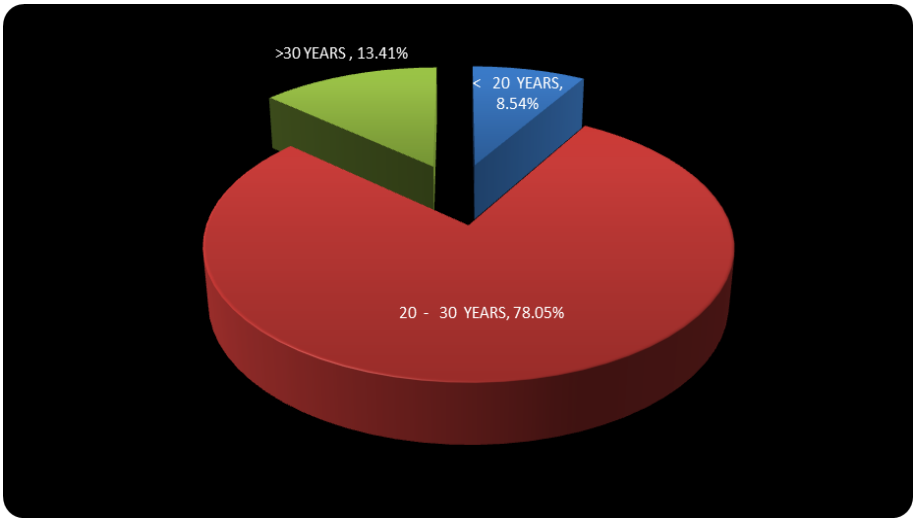


Table III: Distribution according to Gravida: N= 82.

Parity	Number	Percentage
PRIMIGRAVIDA	49	59.76%
2nd GRAVIDA	22	26.83%
3RD GRAVIDA	8	09.76%
>3RD GRAVIDA	3	03.66%
Total	82	100%

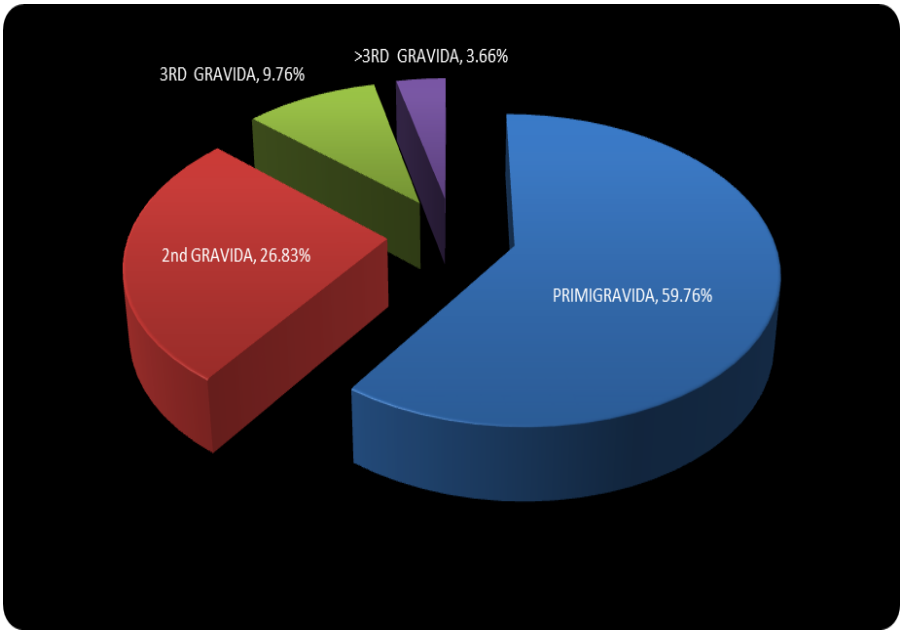


Table IV: Maternal outcome: N = 82.

	Gp1(<50,000)	Gp2(50000-1Lacs)	Gp3(1 -1.5 Lacs)	TEST VALUE	P VALUE
Antepartum haemorrhage	1(1.22%)	0(0%)	0(0%)	5.64	0.97,NS
preeclampsia	5(6.10%)	4(4.88%)	3(3.66%)	0.42	0.81,NS
Postpartum haemorrhage	3(3.66%)	2(2.44%)	1(1.22%)	2.04	0.35,NS
Puerperal sepsis	1(1.22%)	0(0%)	1(1.22%)	1.00	0.60,NS
Wound infection	4(4.88%)	3(3.66%)	3(3.66%)	0.16	0.92,NS
Persistent thrombocytopenia	2(2.44%)	1(1.22%)	0(0%)	2.02	0.36,NS
Blood transfusion	8(9.76%)	5(6.10%)	3(3.66%)	3.00	0.22,NS
Platalet transfusion	3(3.66%)	2(2.44%)	0(0%)	4.08	0.12,NS

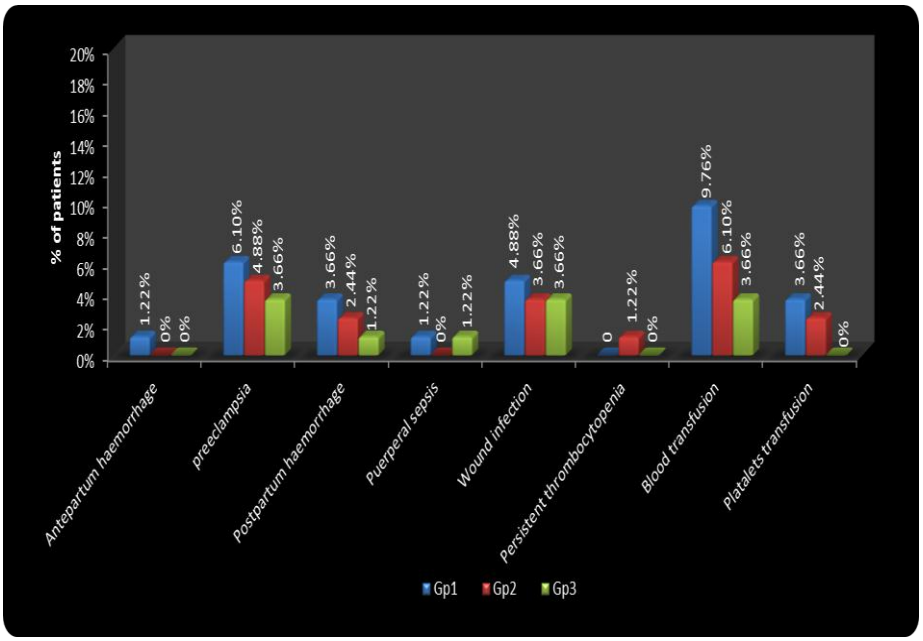


Table V: Mode of delivery.

	Gp 1	Gp 2	Gp 3
No of patients	5(6.10%)	25(30.49%)	52(63.41%)
Vaginal delivery	2(2.44%)	13(15.85%)	28(34.15%)
Caesarean section	2(2.44%)	10(12.20%)	24(29.27%)
Instrumental delivery	1(1.22%)	2(2.44%)	0(0%)

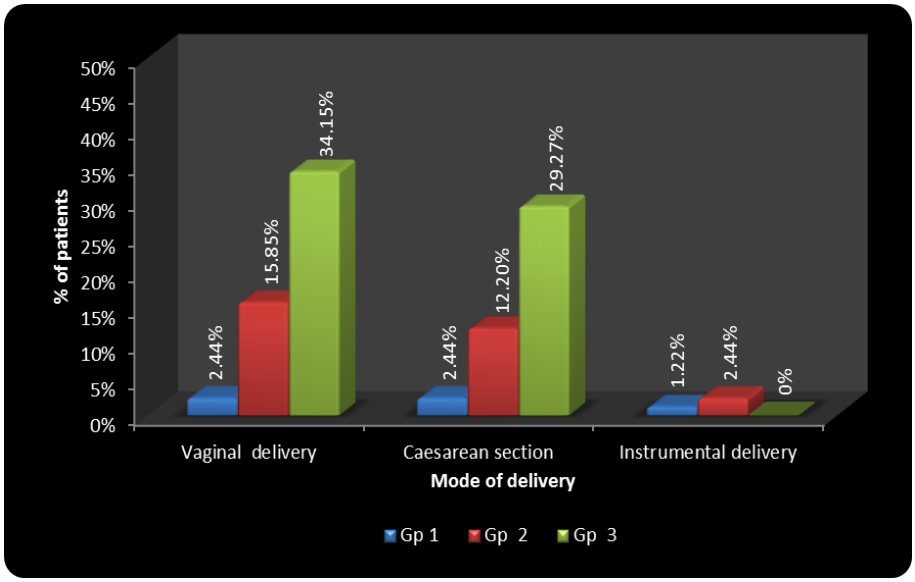
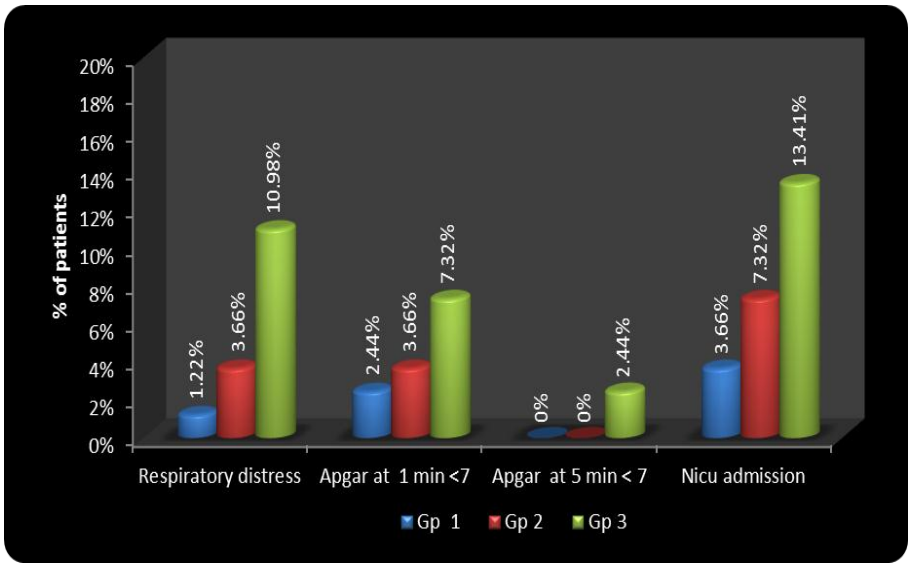


Table VI: Perinatal outcome.

	Gp 1 (n= 4)	**Gp 2 (n=14)**	**Gp 3 (n= 64)**	**Test value**	**P value**
Birth weight	1.8- 2.6 kg	2.1- 3.0 kg	2.2-3.2kg		
Respiratory distress	1(1.22%)	3(3.66%)	9(10.98%)	10.43	0.005,S
Apgar at 1 min <7	2(2.44%)	3(3.66%)	6(7.32%)	3.05	0.24,NS
Apgar at 5 min < 7	0(0%)	0(0%)	2(2.44%)	4.02	0.13,NS
Nicu admission	3(3.66%)	6(7.32%)	11(13.41%)	5.70	0.05,NS



RESULTS OF OUR STUDY WERE AS FOLLOWS

1. Prevalence of thrombocytopenia was 5.92% in our study which was lower than a previous study.[5] Chauhan et al found a prevalence of 8.4% by screening 546 women at a medical college in Tanda, Himachal Pradesh.[6]
2. Two patients with history of fever (dengue suspected) were investigated for viral causes of thrombocytopenia. Both were negative for dengue fever & swine flu.
3. There was no case of ITP in our study.
4. The most common cause of thrombocytopenia in pregnant women in our study was gestational thrombocytopenia (67.07%). In our study 26.83% patients had preeclampsia & 3.66% patients diagnosed as HELLP syndrome.
5. Majority of patients had age between 20 - 30 years in our study (78.05%), Age < 20 years included 08.54% study population & 13.41% patients were elderly gravida (> 30 years) in this study.
6. In our study 59.76% study population includes primigravida, 26.83% 2nd gravida, 09.76% 3rd gravida & 3.66% > 3rd gravida.
7. Out of 82 in our study, 43 underwent vaginal delivery (52.44%), 36 underwent caesarean section (43.90%), & 3 underwent instrumental delivery (3.66%). Caesarean section was done strictly for obstetrical reasons. The common indications for caesarean sections were preeclampsia, IUGR, PROM, Post-dated pregnancy etc.
8. Mean birth weight in our study was 2.75 kg.
9. Neonate required admission to Nicu: 24.39%
10. There were no neonatal deaths in our study.
11. Most of the patients in our study were asymptomatic and did not need any active intervention. Sixteen patients needed blood transfusion and five patients' were given platelet transfusion. Only one patient required prednisolone. Although relatively safe in pregnancy, prednisone can increase weight gain, induce hyperglycaemia, exacerbate hypertension, and contribute to adverse pregnancy outcome. There was one patient who had systemic lupus erthymatosus, however the platelet count was normal in this case. There was no case of ITP- Idiopathic thrombocytopenia purpura in our study.

DISCUSSION

In our study only one patient (1.22%) in group 1 had antepartum haemorrhage whereas no case of was found in Group 2 & 3 & it was statistically insignificant (p value = 0.97). In

group 1, 6.10% patients had preeclampsia whereas 4.88% in group 2 & 3.66% in group 3 had preeclampsia & this value was also statistically insignificant (p value = 0.81).

In our study 3.66% patients had PPH in group 1, whereas 2.44% in group 2 & 1.22% in group 3 had PPH. & this value was also statistically insignificant (p value = 0.35). Only one patient in group 1 & one patient in group 3 had puerperal sepsis whereas none in group 2 suffered. This was also statistically insignificant (p value = 0.60). Four patients in group 1, three in group 2 & three in group 3 were complicated with wound infection in post natal period, which was also statistically insignificant (p value= 0.92).

Two patients in group 1 & one patient in group 2 had persistent thrombocytopenia which was statistically insignificant (p value= 0.36).

Eight patients in group 1, five in group 2 & three patients in group 3 received blood transfusion which was statistically insignificant (p value= 0.22). Three patients in group 1 and two patients in group 2 received platelet transfusion which was statistically insignificant (p value= 0.12).

One neonate in group 1 (1.22%), three in group 2 (3.66%), nine in group 3(10.98%) had respiratory distress & this value was statistically significant (p= 0.005). One neonate in group 1, three in group 2 and six in group 3 had Apgar score < 7 at 1 minute & this value was statistically insignificant (p= 0.24).

Two neonates in group 3 had Apgar score < 7 at 5 minute & this value was statistically insignificant (p= 0.13). Nicu admission rates was 3.66% in group 1, 7.32% in group 2 & 13.41% in group 3 & this value was statistically insignificant (p= 0.05).

In our study, women with mild, moderate &severe thrombocytopenia, all had almost equal rate of caesarean section. No significant association was noted between the severity of thrombocytopenia & mode of delivery. A similar study was done by Ying-Hsuan Lin et al in Chang Gung Memorial Hospital at Taipei, Taiwan in 2013. They found more caesarean rates in thrombocytopenic women as compared to normal women.[7] Thrombocytopenia is not usually considered an indication of caesarean delivery and most previous studies have preferred vaginal delivery, as long as no other obstetric indications were present. Gestational thrombocytopenia is a benign condition, usually detected incidentally during the third trimester and presents no risk of increased bleeding to the mother. The risk of

thrombocytopenia in neonates born to mothers with gestational thrombocytopenia is also considered negligible.[8,10]

According to our study pregnancy with severe thrombocytopenia had higher risk of respiratory distress, which was statistically significant. Also our study showed that pregnancies with thrombocytopenia did not face an increased risk of low Apgar scores in the neonate.

A similar study was done in 2011 at Elias University Emergency Hospital, Bucharest, Romania which concluded that Thrombocytopenia in pregnancy was associated with perinatal morbidity, for both prematurity and low-birth-weight: the lower the platelet count, the higher the risks for the foetus/ new-born.[9]

CONCLUSION

In pregnant women with thrombocytopenia, gestational thrombocytopenia is the commonest condition encountered. This is a relatively benign condition and does not significantly alter obstetrical management. Strict vigilance should be kept on maternal platelets count in antenatal period and at the time of admission in order to prevent unfavourable perinatal outcomes. Early detection and treatment of expected complications is the key focus in management of such cases.

REFERENCES

1. R.F. Burrows, J.G. Kelton, Fetal thrombocytopenia and its relation to maternal thrombocytopenia; N Engl J Med., 1993; 329: 1463-1466.
2. Kam PC, Thompson SA, Liew AC. Thrombocytopenia in the parturient. Anaesthesia, 2004; 59: 255-64.
3. K.B. Lescale, K.A. Eddleman, D.B. Cines, P. Samuels, M.L. Lesser, J.G. McFarland, et al. Antiplatelet antibody testing in thrombocytopenic pregnant women Am J Obstet Gynecol, 1996; 174: 1014-1018.
4. N. Ajzenberg, M. Dreyfus, C. Kaplan, J. Yvart, B. Weill, G. Tchernia; Pregnancy-associated thrombocytopenia revisited: assessment and follow-up of 50 cases. Blood, 1998; 92: 4573-4580.
5. Ying-HsuanLin, Liang-Ming Lo, Ching-Chang Hsieh, Tsung-Hung Chiu, T'sang-T'ang Hsieh, Tai-Ho Hung, September 2013; 52(3): 47-350. https://doi.org/10.1016/j.tjog.2013.01.025

6. Vikrantchauhan, Amit gupta, Neelam Mahajan et al. Maternal & fetal outcome among pregnant women presenting with thrombocytopenia DOI: RHP://doi.org/10.18203/2320-1770 ijrcog 20162658
7. D.A. Nagey, L.S. Alger, B.B. Edelman, M.R. Heyman, M.J. Pupkin, C. Crenshaw Jr. Reacting appropriately to thrombocytopenia in pregnancy South Med J., 1986; 79: 1385-1388.
8. E. Anteby, O. Shalev; Clinical relevance of gestational thrombocytopenia of <100,000/microliters Am J Hematol, 1994; 47: 118-122.
9. Minodora Onisâi, Ana-Maria Vlădăreanu, Caterina Delcea, Mihai Ciorăscu, Horia Bumbea, Anca Nicolescu 1622-1626 © 2012 Informa UK, Ltd. ISSN 1476-7058 print/ISSN 1476-4954 online DOI: 10.3109/14767058.2011.648245
10. Perinatal outcome in normal pregnant women with incidental thrombocytopenia at delivery Ying-Hsuan Lin, Liang-Ming Lo, Ching-Chang Hsieh; Taiwanese Journal of Obstetrics & Gynaecology, 2013; 52: 347-350. Department of Obstetrics and Gynecology, Chang Gung Memorial Hospital at Taipei, Taiwan.