IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 20, Issue 1 Ser.14 (January. 2021), PP 28-33
www.iosrjournals.org

Observational Retrospective Study of Thrombocytopenia in Mild Covid Pregnant Women.

Dr.k. Prasanna Laxmi[1],Dr. S.Anitha[2], Dr.K.Vishali[3]
1 Assistant professor of Obstetrics &Gynaecology, Gandhi Medical College, Hyderabad, Telangana state
2 Associate Professor of Obstetrics and Gynaecology,Gandhi Medical College, Hyderabad, Telangana state
3 Senior Resident, Gandhi Medical College, Hyderabad, Telangana

Date of Submission: 10-01-2021 Date of Acceptance: 25-01-2021

I. Introduction

Since novel corona virus outbreak emerged as a pandemic in December, 2019 it has infected many people globally. Thrombocytopenia during pregnancy is quite common, with as many as 5-10% of patients being affected[1].In the initial data from China, mild thrombocytopenia is seen in 1/3rd of non pregnant patients admitted in hospital, more recent meta analysis found that thrombocytopenia is associated with 3-fold greater risk of COVID19 infection[2].

According to UNICEF, an estimated 116million babies will be born under the shadow of COVID19,with India expecting to have one of the highest births(20.1million).[3] Due to paucity of data about pregnant women infected with covid-19, it is essential to assess the relation of thrombocytopenia and its effect on maternal and perinatal outcome. Thrombocytopenia can be easily detected as CBP is routinely done in pregnant women. Thrombocytopenia is defined as less than 1, 50,000 of platelet count per ml of blood. It is seen in 10% of normal pregnancies of which, 75% are gestational thrombocytopenia and 25% are due to other causes, one of the common cause being HELLP syndrome. Thrombocytopenia may be inherited (or) idiopathic; acute (or) chronic; primary (or) associated with other disorders. Apart from the proposed multifactorial causes like decreased platelet production, immune-mediated platelet destruction and increased platelet consumption by micro thrombi generation,[4]thrombocytopenia in COVID positive pregnant patients can be exaggerated by obstetric factors like gestational thrombocytopenia or preeclampsia.[5]

II. Aims and Objectives

1. To identify presence of thrombocytopenia in covid-19 infected antenatal patient.
2. To evaluate the maternal and perinatal outcome in covid-19 infected antenatal patient.

III. Methodology

MATERIALS AND METHODS:
The study was done in patients presenting with COVID-19 positive pregnant women admitted in Gandhi hospital (for covid-19 infection diagnosed by reverse transcriptase polymerase chain reaction in nasopharyngeal swab) from March, 2020 to September 30th, 2020. Data was collected from case sheets and analyzed by statistical package for social sciences [SPSS] version 15
INCLUSION CRITERIA: Pregnant women diagnosed with COVID-19 by reverse transcriptase polymerase chain reaction in nasopharyngeal swab.
EXCLUSION CRITERIA: 1. Pregnant women with preeclampsia and HELLP syndrome.
2. Pregnant women with renal disease.
3. Pregnant women with SLE.
4. Severely ill patients.
PATIENT AND METHODS:
Study Design: This is an Observational Study

IV. Results

TABLE 1. PRESENTING COMPLAINTS

PRESENTING COMPLAINTS		Frequency	Percent	Valid Percent	Cumulative Percent
VALID	SORETHROAT	1	2.0	2.0	2.0
	ASYMPTOMATIC	37	74.0	74.0	76.0
	FEVER AND COLD	6	12.0	12.0	88.0
	FEVER AND COLD COUGH	5	10.0	10.0	98.0

	FEVER AND COUGH	1	2.0	2.0	100.0
	TOTAL	50	100.0	100.0	

FIGURE 1:

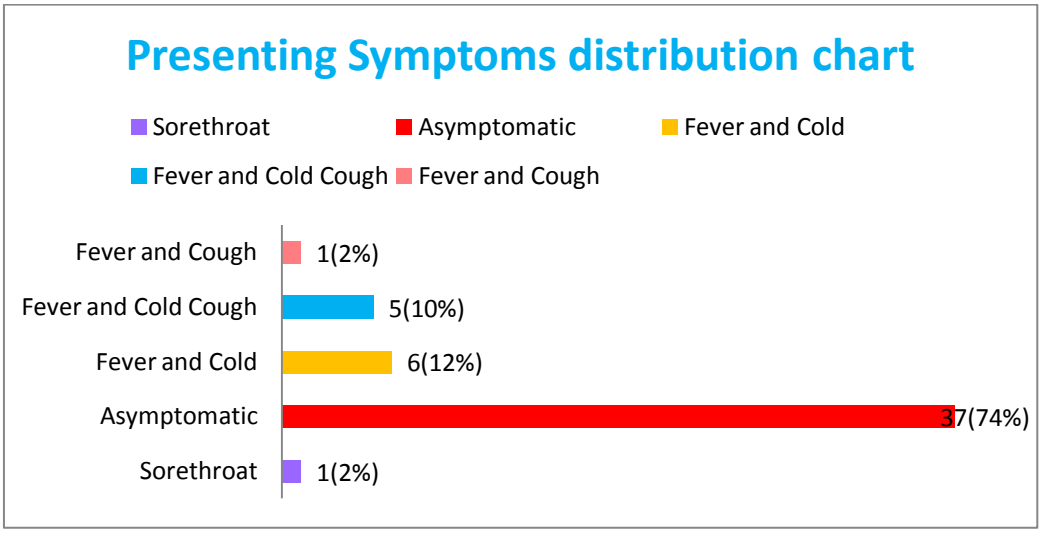


Figure 1 Majority 37(74%) of covid infected antenatal women were asymptomatic, and the most common presenting complaints are fever with cold 6(12%), fever with cold,cough 5(10%) and 1% with sorethroat,fever and cough

TABLE 2. OBSTERSTETRIC COMPLAINTS:

OBSTERSTETRIC COMPLAINTS		Frequency	Percent	Valid Percent	Cumulative Percent
VALID	ASYMPTOMATIC	31	62.0	62.0	62.0
	OLIGOHYDRAMNIOUS	9	18.0	18.0	80.0
	APH	1	2.0	2.0	82.0
	BOH,RPL	2	4.0	4.0	86.0
	IUD	1	2.0	2.0	88.0
	RH -VE PREG.	1	2.0	2.0	90.0
	POLY HYDROMNIOUS	1	2.0	2.0	92.0
	PROM	4	8.0	8.0	100.0
	TOTAL	50	100.0	100.0	

As shown in the table 2, most 9(18%) of the covid infected women had Oligohydramnios, 4(8%) had PROM, 2(4%) with BOH, 1(2%) each with APH, IUD, Rh negative pregnancy, polyhydramnious.

TABLE 3. MODE OF DELIVERY

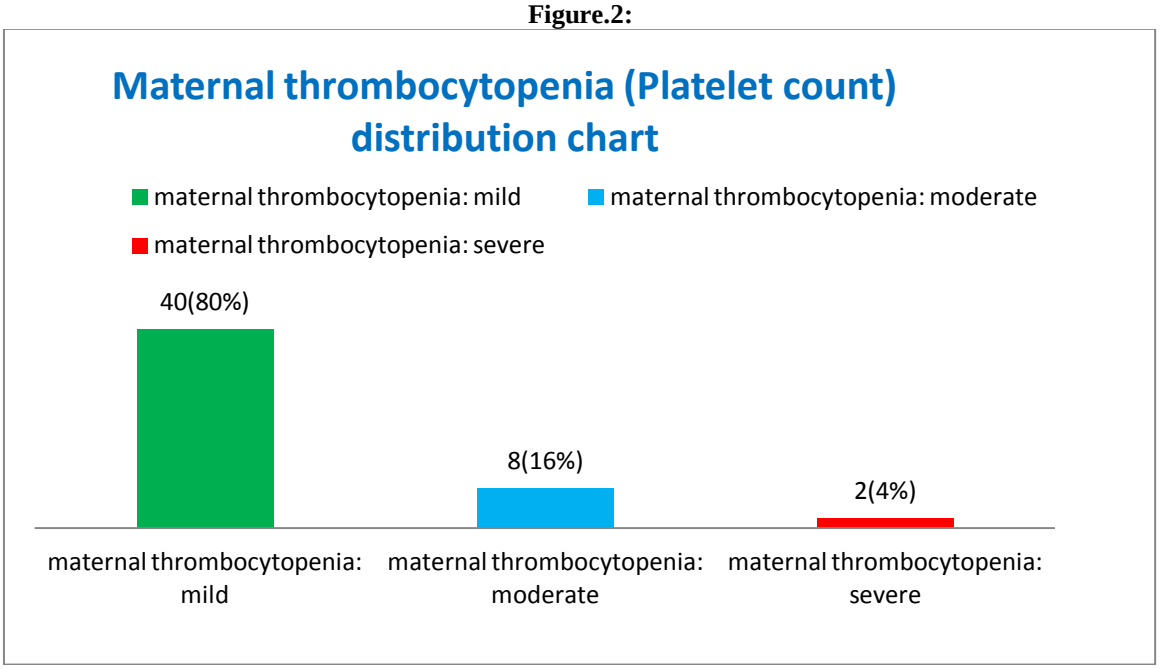
MODE OF DELIVERY		Frequency	Percent	Valid Percent	Cumulative Percent
VALID	LSCS	32	64.0	64.0	64.0
	NVD	18	36.0	36.0	100.0
	TOTAL	50	100.0	100.0	

In my study ,majority 64% of the women delivered through LSCS for various obstetric and medical indications, and 36%delivered through vaginal delivery.

TABLE 4. PLATELET COUNT(MATERNAL THROMBOCYTOPENIA)

PLATELET COUNT		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	mild	40	80.0	80.0	80.0
	moderate	8	16.0	16.0	96.0
	severe	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Figure.2:



As shown in the figure 2, among 50 women, majority of them 40(80%) had mild, 8(16%) had moderate and 2(45%) had severe thrombocytopenia.

FIGURE 3: NEONATAL OUTCOME

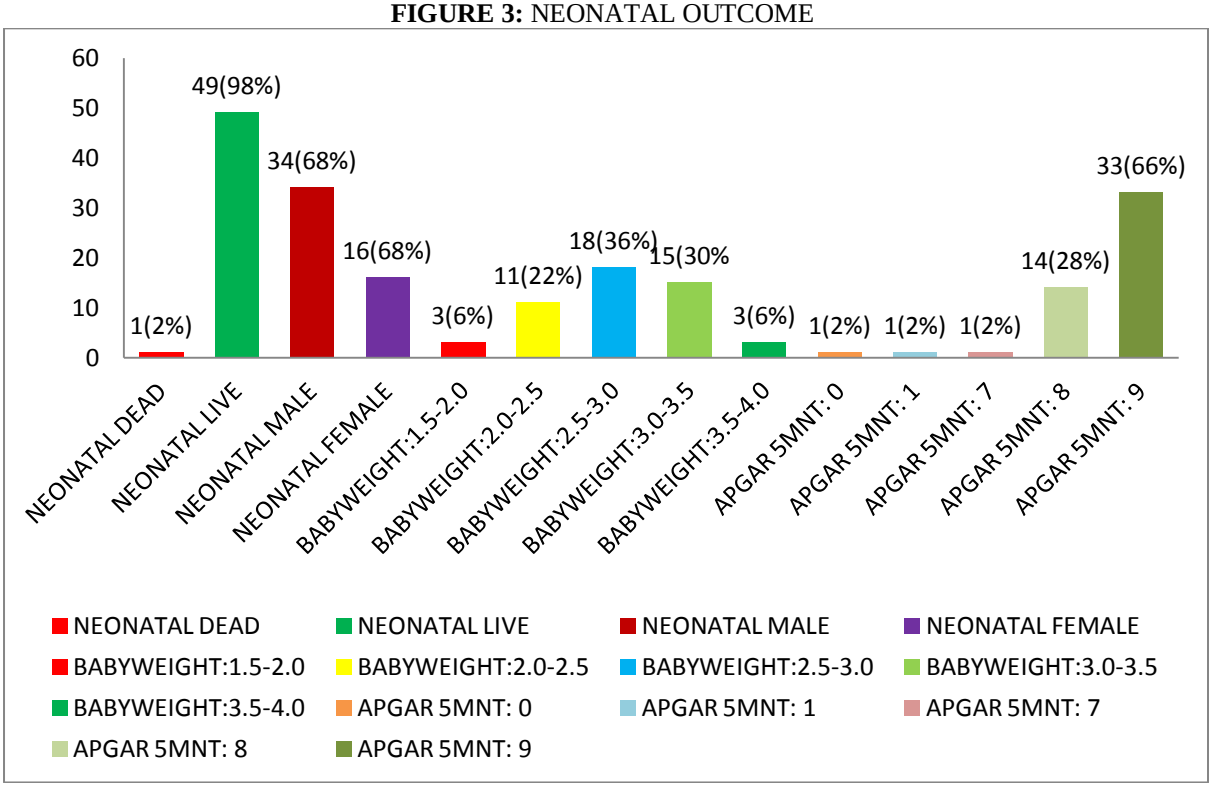
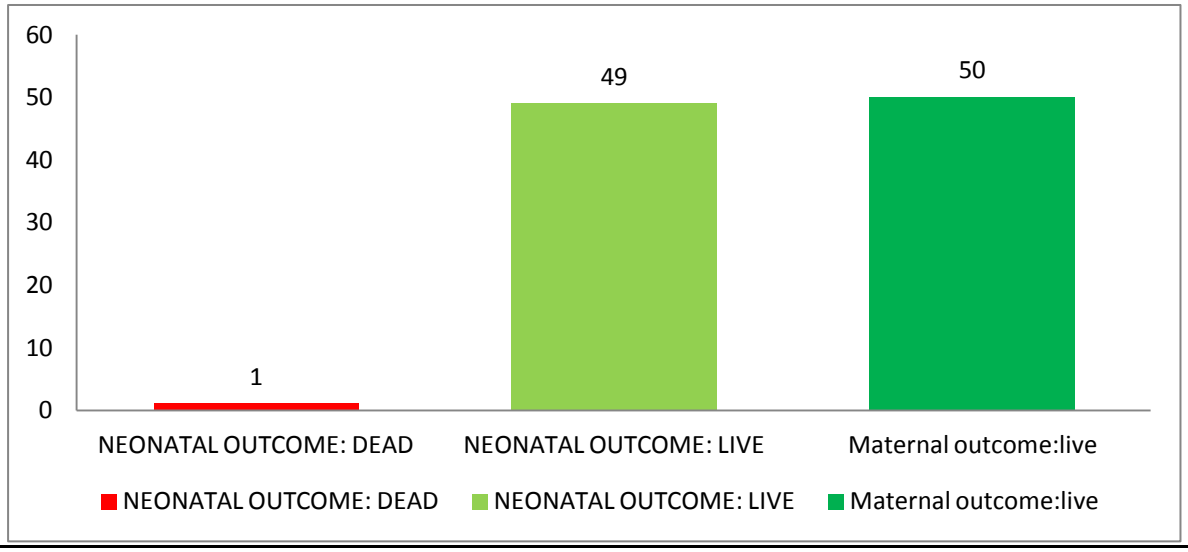


Figure 3, shows that among 50 women delivered, there were 49(98%) live births, and Intrauterine dead was 1(2%) .68% were male and only 6% were female. Majority 72% babies were above 2.5kg and remaining 28%were below 2.5kgs.Out of 50 babies ,APGAR SCORE at 1min <1 and <7 at 5min seen in 1 baby, remaining 49(98% above >7 at 1min and 5min.

FIGURE 4 :



No maternal death was recorded in my study among 50 covid infected women .

FIGURE 5:

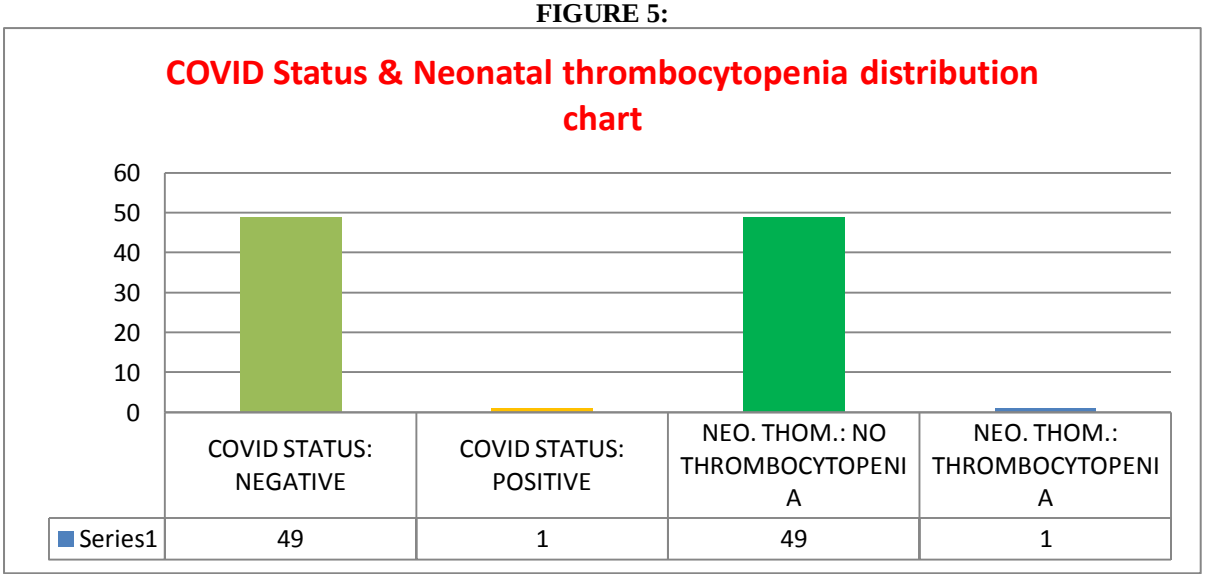


Figure 5, shows that, out of the 49 live births, 1(2%) baby tested positive for covid 19 and 1 baby had neonatal thrombocytopenia(1.2lakhs).

Summaries above result:

TABLE 6: SYMPTOMS OF COVID-19 ANTENATAL PATIENTS DISTRIBUTIONS:

		Frequency	percent (%)
PRESENTING SYMPTOMS:	Sorethroat	1	2
	Asymptomatic	37	74
	Fever and Cold	6	12
	Fever and Cold Cough	5	10
	Fever and Cough	1	2
OBSTESTERIC SYMPTOMS:	Asymptomatic	31	62
	APH	1	2
	Oligohydramnios	9	18
	IUD	1	2

Polyhydromnious	1	2
RH-VE PREG.	1	2
PROM	2	4
BOH,RPL	2	4

Table 7: Maternal and Neonatal distributions:

		Frequency	percent (%)
GRAVIDA:	Primi	19	38
	Multi	31	62
GESTATIONAL AGE:	30-36	8	16
	37-40	42	84
MODE OF DELIVERY:	LSCS	32	64
	NVD	18	36
MATERNAL THROMBOCYTOPENIA:	Mild	40	80
	Moderate	8	16
	Severe	2	4
COVID STATUS:	Negative	49	98
	Positive	1	2
MATERNAL OUTCOME:	live	50	100
NEONATAL OUTCOME :	Dead	1	2
	live	49	98
BABY WEIGHT:	1.5-2.0	3	6
	2.0-2.5	11	22
	2.5-3.0	18	36
	3.0-3.5	15	30
	3.5-4.0	3	6
APGAR AT 5MNT:	< 7	2	4
	> 7	48	96
NEONATAL THROMBOCYTOPENIA:	no thrombocytopenia	49	98
	Thrombocytopenia (1.2 lakh)	1	2
H/O. OF PREVIOUS PREGNANCY:	prevs lscs	13	20
	Previous NVD	18	36
	no history	18	36

Chi-square results:

Note: I think, maternal outcome has only live(i,e no death category) because test is no given result.(no statistics are computed because of maternal outcome is constant).

TABLE 10. CASE PROCESSING SUMMARY

	CASES					
	VALID		MISSING		TOTAL	
	N	PERCENT	N	PERCENT	N	PERCENT
platelet count(maternal thrombocytopenia) * neonatal thrombocytopenia	50	100.0%	0	0.0%	50	100.0%

TABLE11.PLATELET COUNT(MATERNALTHROMBOCYTOPENIA) * NEONATAL THROMBOCYTOPENIA CROSSTABULATION

			NEONATAL THROMBOCYTOPENIA		
			NO THROMBOCYTOPENIA	THROMBOCYTOPENIA (1.2 LAKH +VE)	TOTAL
Platelet Count(Maternal thrombocytopenia)	mild	Count	39	1	40
		Expected Count	39.2	.8	40.0
	moderate	Count	8	0	8
		Expected Count	7.8	.2	8.0
	severe	Count	2	0	2
		Expected Count	2.0	.0	2.0
Total		Count	49	1	50
		Expected Count	49.0	1.0	50.0

Table12:CHI-SQUARE TEST ON MATERNAL THROMBOCYTOPENIA AND NEONATAL THROMBOCYTOPENIA:

CHI-SQUARE TESTS

	VALUE	DF	ASYMP. SIG. (2-SIDED)
pearsonchi-square	.255[A]	2	.880
likelihood ratio	.451	2	.798
n of valid cases	50		

A. 4 CELLS (66.7%) HAVE EXPECTED COUNT LESS THAN 5. THE MINIMUM EXPECTED COUNT IS .04.

Statistical interpretation:
We observed that there is no a signification association between the neonatal **thrombocytopenia** and Maternal **thrombocytopenia** (P>0.05, Fisher's exact test).

V. Conclusion:

Since beginning of the pandemic an optimal management of vulnerable patients, such as pregnant women has been regarded as a challenge and thrombocytopenia is more common in pregnant women.Recognition of thrombocytopenia if present,even in aymptomatic COVID 19,infected antenatals is crucial for safe obstetric and anaesthetic neonatal care. In my study majority of patients with mild thrombocytopenia recovered completely and had normal antenatal, perinatal and postnatal outcome. Out of the 50, 2% had neonatal thrombocytopenia and recovered well. Manifestation of thrombocytopenia in mild covid 19 infected antenatal women is a novel occurrence and yet another unique attribute of this current pandemic.

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Dr.k. Prasanna Laxmi, et. al. "Observational Retrospective Study of Thrombocytopenia in Mild Covid Pregnant Women." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 20(01), 2021, pp. 28-33.