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CLINICAL ANALYSIS OF RISK FACTORS AND OUTCOME IN PLACENTA PREVIA

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ABSTRACT

BACKGROUND: Placenta previa describes a placenta that is implanted somewhere in the lower uterine segment,either over or near the internal cervical os. **AIM OF THE STUDY:** To analyse the risk factors and outcomes associated with placenta previa. **METHODS:** A prospective study of all the placenta previa patients delivered at Govt RSRM Lying in Hospital,Chennai from June 2019 to November 2020 are included.Control of 533 patients without placenta previa were selected randomly during the same period.The differences between the groups with respect to age,parity ,mal presentation,pregnancy associated complications,gestational age at onset of bleeding,gestational age at delivery,mode of delivery,third stage complications,neonatal outcome,during of hospital stay are noted. **RESULTS:** The risk of occurrence of placenta previa is increased with advancing maternal age,parity and previous uterine surgery.Incidence is 0.5%,69% of placenta previa cases delivered by cesarean section,10% developed PPH,2% managed surgically,25% preterm delivery. **CONCLUSION:** Accurate diagnosis,judicious expectant management with blood transfusion as required and timely delivery may lead to the most favorable outcome. The current study also suggested that advancing maternal age,parity and cesarean section increase the risk of placenta previa.

INTRODUCTION

Placenta previa describes a placenta that is implanted somewhere in the lower uterine segment ,either over or near the internal cervical os. In a recent Foetal Imaging Workshop sponsored by the National Institutes of Health (Dashe,2013), the following classification was recommended: *Placenta Previa*-the internal cervical os is covered partially or completely by placenta; *Low lying placenta*-placental edge does not reach the internal os or 2cm away from the os. The most common clinical presentation of placenta previa is painless vaginal bleeding. It is associated with maternal morbidity and mortality due to high chance of hemorrhagic shock which requires operative interventions and sepsis. There is also a higher incidence of preterm deliveries.

The incidence of placenta previa is 4-5/1000 of all term pregnancies. Advanced maternal age increases the risk of placenta previa. It is 1 in 100 for women older than 35 years. Prior cesarean section increases the likelihood of placenta previa. Past history of placenta previa has 10% chance of recurrence in current pregnancy. The simplest, and safest method of placental localization is by transabdominal ultrasonography. Management of placenta previa depends on gestational age, presentation, and degree of placenta previa. Expectant management improves the outcome of placenta previa.

AIM OF THE STUDY

To study the incidence of placenta previa in general obstetric population

To evaluate and to find out the occurrence of placenta previa under the influences of the following factors like advancing maternal age,parity and previous uterine scar.

To study the course of pregnancy and labour in placenta previa

To find out the maternal and perinatal outcome in placenta previa.

MATERIALS AND METHODS

MATERIALS

All cases of placenta previa admitted in Government RSRM Lying in Hospital,Chennai-13 during the period of June 2019 to November 2020 were studied in detail. 533 pregnant women delivered during the same period with placenta in normal location was taken as control. Total number of deliveries during this period were 18,642. Of these 18,804 are live births. Total number of twin deliveries were 238. Total number of placenta previa cases were 102.

METHODS

After eliciting a detailed history all patients included in the study were subjected to examination.The basic investigations done were hemoglobin estimation,urine analysis,blood grouping and typing,bleeding time,clotting time,ultrasound for gestational age, presentation and placental localization. Gestational age at onset of bleeding,expectant management, gestational age at delivery,mode of delivery,postpartum hemorrha ge and the need for conservative management or hysterectomy were noted. All the newborn was examined and APGAR score,birth weight were noted. Both mother and the newborn were followed up till discharge.

RESULTS AND ANALYSIS

The incidence of placenta previa among total deliveries during this period is 0.55%. The overall occurrence of placenta previa diagnosed at delivery was 102 of 18,642. Of these 99 were singleton and 3 were multiple gestations. The incidence of placenta previa in singleton gestation is 0.54%. The incidence in multiple gestation is 1.26%.

TABLE1

TEST OF ASSOCIATION BETWEEN AGE AND GROUPS

AGE DISTRIBUTION	CASE		CONTROL	
	NO.	%	NO.	%
<20	3	2.9	53	9.9
20-24	53	52.0	308	57.8
25-29	30	29.4	131	24.6
30-34	12	11.8	34	6.4
≥ 35	4	3.9	7	1.3
TOTAL	102	100	533	100

Age is compared between the case and control. The percentage of placenta previa is more than the control among higher age group ≥ 25years. The mean age of case is

24.67±4.16 and control is 23.39±5.74

TABLE 2
TEST OF ASSOCIATION BETWEEN PARITY AND GROUPS

PARITY	CASE		CONTROL	
	NO.	%	NO.	%
0	38	37.25	260	48.78
1	47	46.07	200	37.52
2	16	15.6	60	11.25
3	1	0.9	10	1.87
≥4	0	0	3	0.56
TOTAL	102	100	533	100

Average parity of case is 2.18±0.49

TABLE 3
TEST OF ASSOCIATION BETWEEN PREVIOUS LSCS AND GROUPS

PLACENTA PREVIA	CASE		CONTROL	
	NO.	%	NO.	%
YES	28	27.45	80	15
NO	74	72.54	453	84.9
TOTAL	100	100	533	100

27.45% of cases had history of previous cesarean delivery. It has 2.14 times increased risk of placenta previa in subsequent pregnancy.

TABLE 4
PLACENTA PREVIA AND MALPRESENTATION

BREECH	CASE		CONTROL	
	NO.	%	NO.	%
YES	5	4.9	12	2.3
NO	97	95.1	521	97.7
TOTAL	102	100	533	100

4.9% of cases had breech presentation. The risk is 2.23 times higher in placenta previa than the control group.

TABLE 5
PLACENTA PREVIA AND ANOMALIES

ANOMALIES	CASE		CONTROL	
	NO.	%	NO.	%
YES	3	2.9	3	0.56
NO	99	97.1	530	99.4
TOTAL	102	100	533	100

The risk of getting anomalies is 5.35 times higher among the placenta previa cases than the control.

TABLE 6
ANALYSIS OF PRESENTING SYMPTOMS

SYMPTOMS	NO. OF CASES	%
Painless bleeding only	46	45
Bleeding with other symptoms	16	15.68
Abdominal pain	28	27.5
Draining PV	9	8.8
Diminished foetal movements	5	4.9
Safe confinement	14	13.7

On admission painless bleeding pv was the chief complaint made by majority of patients. Only 13.47% patients were admitted for safe confinement.

TABLE 7
GESTATIONAL AGE AT ONSET OF BLEEDING

WEEKS	NO.OF CASES	%
28	3	5.26
30	2	3.5
32	8	14.0
34	16	28.1
36	14	24.6
38	8	14.0
40	6	10.5
TOTAL	57	100

Mean gestational age at bleeding is 34.95 weeks. The initial episode of bleeding has a peak incidence around 34 weeks of gestation.

TABLE 8
ANALYSIS OF PREGNANCY ASSOCIATED COMPLICATIONS

COMPLICATIONS	NO.OF CASES	%
PIH	5	5.05
HEART DISEASE	1	1
Rh NEGATIVE	5	5.05
ASTHMA	2	2.02
GDM WITH HYPOTHYROIDISM	1	1
PRE EXISTING ANEMIA	4	4.04

Out Of the 99 cases of placenta previa 5 patients had pregnancy induced hypertension out of which 1 patient had AP eclampsia.

TABLE 9
BLOOD HEMOGLOBIN LEVELS

Hb in gms%	NO.OF CASES	%
<7	1	1.0
7-10.5	71	69.6
>10.5	30	29.4
	102	100.0

In our study ,only one patient was admitted with Hemoglobin level <7g%.70% were between 7-10.5g%.

TABLE 10
DAYS ON EXPECTANT MANAGEMENT

DAYS	NO.OF CASES	%
<7	15	34
7-13	17	38.6
14-20	7	15.9
>21	5	11.36
TOTAL	44	100

Among 102 cases,44 patients were kept on expectant line of management. Of these 15(34%)patients delivered within one week.Out of 5 cases who were on expectant management more than 21 days,2 patients crossed more than 50 days.

TABLE 11
GESTATIONAL AGE AT DELIVERY

WEEKS	NO.OF CASES	%
<30	4	3.9
30-32	11	10.8
32-34	15	14.7
34-36	25	24.5
≥37	47	46.1
TOTAL	102	100

The average gestational age at delivery is 36.97±2.97. 29% of cases delivered before 34 weeks and 46% cases delivered at or above 37 weeks.

TABLE 12
MODE OF DELIVERY

	NO.OF CASES	%
VAGINAL	32	31.3
ELECTIVE CESAREAN	3	2.9
ELECTIVE CESAREAN WITH STERILISATION	2	1.9
EMERGENCY CESAREAN	50	49.0
EMERGENCY CESAREAN WITH STERILISATION	15	14.7
TOTAL	102	100

MODE OF DELIVERY	MINOR DEGREE		MAJOR DEGREE	
	NO.OF CASES	%	NO.OF CASES	%
VAGINAL	30	29.4	2	1.96
CESAREAN	44	43.1	26	25.4

The cesarean section rate is 78.7%

TABLE 13
THIRD STAGE COMPLICATIONS

COMPLICATIONS	MODE OF DELIVERY				MANAGEMENT			
	VAGINAL	%	CESAREAN	%	MEDICAL	%	SURGICAL	%
POST PARTUM HEMORRHAGE	1	1.2	9	8.8	8	7.96	2	2.04
PLACENTA ACCRETA	-	-	-	-	-	-	-	-

PPH occurred in 10% of total cases. 2 cases were managed surgically. In 1 case bilateral uterine artery and internal iliac artery ligation done. In the other case B-Lynch suturing was done.

TABLE 14
NEONATAL OUTOME

FACTORS	NO.OF CASES	%
GESTATIONAL AGE 28-32 WEEKS 33-36 WEEKS >37 WEEKS		
BIRTH WEIGHT <1.5 1.5-1.99 2-2.49 2.5-2.99 3-3.49 ≥3.5	 7 12 29 34 17 6	 6.7 11.4 27.6 32.4 16.2 5.7
APGAR SCORE <7 ≥8	 38 64	 37.3 62.7
PRETERM BIRTHS	30	28.46
LIVE BIRTHS TWIN DELIVERIES	103 3	98.09 0.03
IUD TERM PRETERM	2 - 2	1.91 - 1.91

There were no maternal mortality. Out of 102 cases 40 cases required blood transfusion. 1 patient went in for hemorrhagic shock and was revived. 2 patients had postop wound infection.

CONCLUSION

Placenta previa,whether found fortuitously by ultrasound or with the clinical emergency of maternal hemorrhage carries significant maternal and foetal risk. Accurate diagnosis, judicious expectant management with blood transfusion as required and timely delivery can lead to the most favorable outcome.

Regional anaesthesia may be safely administered in placenta previa cases. Anticipation of the clinical complications of placenta previa like PPH and conservative management may avoid serious consequences.

The current study also suggested that advancing maternal age,parity,previous cesarean section increases the risk of placenta previa.

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