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Original Research Article

To compare the accuracy of placenta previa using placenta previa with adherent placenta score & placenta accreta index scores.

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Abstract:
Background & Method: The aim of this study is to compare the accuracy of placenta previa using placenta previa with adherent placenta score & placenta accreta index scores. All patients attending outdoor & indoor, diagnosed as placenta previa, was included in the study after informed consent. Demographic profile, detailed history & examination was noted in a preformed performa. Ultrasound (obstetric Doppler) was done & Placenta previa with adherent placenta & Placenta accreta index scores was calculated for each patient. For patients who require immediate intervention, the most recent third-trimester USG was considered for the same.
Result: The study shows that uterine contraction is rarely seen in patients with placenta previa: 4(3.2%) and is standard in patients with abruption placentae. Amount of bleeding is absent in 30(24.3%), mild 46 (37.3%), moderate 37 (30.1%) and severe 10 (8.3%).The bleeding in placenta previa is unpredictable, unprovoked and painless as it is due to the shearing force of the placenta at the lower end because of lower segment formation during the third trimester when the patient is not having contractions.
Conclusion: Among pregnant women, the risk for placenta previa in a subsequent pregnancy is in cases with a history of instrumentation, previous caesarean sections, and infertility treatment. We aimed to find a better score, which could be used for the predictability of adherent placenta in future. Women with a history of previous caesarean section, instrumentation, treatment for infertility and multiparity are at risk of failure of normal decidualization at the site of the uterine scar, which leads to abnormally deep trophoblast infiltration. Patients with such a history should be given special attention. First-trimester sonography is done to rule out scar ectopic. Once scar ectopic or placenta previa is diagnosed in pregnant women, the treatment choice must consider the gestational age and risk of maternal and fetal complications. Routine and early sonography-based diagnosis could help minimize morbidity and mortality related to placenta previa. Placenta accreta spectrum presents unique challenges in pregnant patients.

Keywords: placenta, previa, score & accrete.

Study Designed: Observational Study.

1. Introduction

Placenta accreta spectrum, earlier called morbidly adherent placenta, refers to the pathologic adherence of the placenta[1].
The spectrum of placenta accreta is classified into placenta accreta (PA), placenta increta (PI), and placenta percreta (PP), depending on the extent of attachment and infringement into the myometrium of the uterus[2]. Placenta Accreta refers to the condition where the placental villi invade the decidua and affix to the myometrium. Placenta Increta is the condition in which the placental villi penetrate the myometrium. Placenta Percreta is the condition in which the placental villi penetrate through all three layers of the uterus, reaching the serosal layer or even invading the adjacent organs. Placenta Percreta is a more critical condition that may lead to the demise of both the mother and the foetus[3-4].
The placenta accreta spectrum has become a significant contributor to severe maternal dismalness. The genuine rate is hard to determine, however reasonable falls close to 1/1000 deliveries[5]. This number seems to have hiked along with the rate of risk factors. These include placenta previa, previous cesarean deliveries, use of assisted reproductive techniques, uterine procedures, and advanced maternal age. With increased uterine conservation, previously retained placenta or placenta accreta have become notable risk factors. Understanding placenta accreta spectrum risk factors

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enable patient identification and safe delivery planning. Patients considering elective uterine procedures or delayed childbirth should consider the impact on peripartum morbidity[6-7].
The term previa(L in front of) denotes the location of the placenta concerning the presenting part. Placenta previa refers to a placenta located wholly or partially within the lower uterine segment at or after 28 weeks gestation. Before 28 weeks placenta may be located within or near the developing lower uterine segment and is called as low lying placenta; most low-lying placenta was convert into placenta previa[8].

2. Material & Method

Present study was conducted as an Observational Study in the Department of Obstetrics and Gynaecology, Gandhi Medical College, Bhopal on all pregnant women, who presented with placenta previa during the study period from 1st January 2021 to 30th June 2022.
All patients attending outdoor & indoor, diagnosed as placenta previa, was included in the study after informed consent. Demographic profile, detailed history & examination was noted in a preformed performa. Ultrasound (obstetric Doppler) was done & Placenta previa with adherent placenta & Placenta accreta index scores was calculated for each patient. For patients who require immediate intervention, the most recent third-trimester USG was considered for the same.
Each case was followed for its mode of delivery, intraoperative findings & interventions, duration of hospital stay & complications. Histopathological reporting of the uterus & placenta was done for patients undergoing peripartum hysterectomy.

INCLUSION CRITERIA:-

1. All patients with placenta previa were admitted during the study period.

EXCLUSION CRITERIA:-

1. Patients except for the ones with a diagnosis of placenta previa.
2. Patients not giving consent for participation.

STATISTICAL ANALYSIS

Multivariate analysis was done to assess the risk factor associated with placenta previa. Data was compiled using Ms Excel and analyzed using IBM SPSS software version 20. Data were expressed as frequency and proportion.

3. Results

Table No 01: Distribution of patients of placenta previa according to age

S. No.	Age Group	No.	Percentage
1	18-25	28	22.7
2	26-30	46	37.3
3	31-35	39	31.7
4	36-40	10	8.3
	TOTAL	123	100

The table shows that the number of patients in the age group between 18-25 years was 28 (22.7%), 26-30 years were 46 (37.3%), 31-35 years were 39 (31.7%) and 36-40 years (10%). Thus, most patients were in the age group 26-30 years. This indicates early marriage; illiteracy and lack of contraception are prevalent and responsible for early pregnancy, lesser interpregnancy interval and multiple pregnancies.

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Table No 02: Distribution of patients of Placenta Previa according to booking status

S. No.	Booking Status	No.	Percentage
1	Booked	120	97.6
2	Unbooked	03	2.4
	TOTAL	123	100

According to the study, patients who were diagnosed with PlacentaPrevia with sonography were included in the study. Unbooked undiagnosed patients who did not have sonographywere included after their sonographicdiagnosis was made. However, the booked patients included the ones referred from private or primary or secondary care centres.

Table No 03: Distribution of patients of Placenta Previa according to obstetric history (Gravidity)

S. No.	Obstetric history	Number of patients	Percentage
1	Primigravida	07	5.7
2	2nd Gravida	37	30.0
3	3rd Gravida	57	46.3
4	4th Gravida	11	9.0
5	5th Gravida	05	4.1
6	6th Gravida	04	3.25
7	7th Gravida	00	00
8	8th Gravida	00	00
9	9th Gravida	02	1.65
	TOTAL	123	100

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The study shows that the maximum number of patients was 3rdgravida 57 (46.3%). Primigravida were 07 (5.7%), 2ndgravida 37 (30%), 4thgravida 11(9%), 5thgravida 5(4.1%), 6thgravida were 4(3.25%). Also, multigravida patients were in significant numbers, which indicates that these women appear to be at increased risk.

Table No 04: Distribution of patients according to presenting complaints

S. No.	Symptoms	Number Of Patients	Percentage
1	Bleeding	93	75.6
2	Pain abdomen	10	8.13
3	Perceiving fetal	91	73.9
	movements		

The study shows that the maximum number of patients presented with painless bleeding. Pain abdomen and absence of perception of fetal movement are seen in the case of abruption placenta majorly. 75.6% of patients had complaints of bleeding per vaginum, as the placenta is near the os, and the formation of the lower segment causes bleeding due to strain on the placenta.

Table No 09: Distribution of patients of Placenta Previa according to presenting signs

S. No.	Uterine action	No.	Percentage
1	Contraction	04	3.2
2	Relaxed	119	96.8
S. No.	**Amount of**	**No.**	**Percentage**
	Bleeding		
1	Absent	30	24.3
2	Mild	46	37.3
3	Moderate	37	30.1
4	Severe	10	8.3

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The study shows that uterine contraction is rarely seen in patients with placenta previa: 4(3.2%) and is standard in patients with abruption placentae. Amount of bleeding is absent in 30(24.3%), mild 46 (37.3%), moderate 37 (30.1%) and severe 10 (8.3%).The bleeding in placenta previa is unpredictable, unprovoked and painless as it is due to the shearing force of the placenta at the lower end because of lower segment formation during the third trimester when the patient is not having contractions.

4. Discussion

During our study period, the total number of obstetrical admission was 16,281, out of which, total cases of placenta previa were 123; thus, the incidence of placenta previa was 0.755%. Our results were the following results reported by Daftery [9].

Considering the burden of placenta previa, it is imperative to early recognize and plan a strategy according to the degree of placenta previa for better maternal and neonatal outcomes.

According to our study, participants diagnosed with Placenta Previa with sonography were included in the study, so most of them were booked, a study reported that 89.3% of cases were booked cases, and the remaining 10.7% were unbooked cases.

In our study, 75.6% of participants presented with bleeding per vaginum, followed by an absence of fetal movements in 26.1% of cases. The bleeding is not associated with uterine action. The amount of bleeding is mild to moderate in amount. A study reported 81.8% of participants with bleeding as the most common presentation. Bleeding per vaginum is observed because of shearing force due to lower uterine segment formation[10].

Our present study shows that participants present with malpresentation 51 (38.2%), transverse lie 07(5.6%), breech presentation 44(33.3%), severe anaemia 08(6.5%), Pregnancy induced hypertension 20 (16.4%)[11].

Study showed 24.3% breech and 10.28% transverse presentation, had 18% breech and 5% transverse lie, 14% breech and 60% transverse lie, had 15.2% breech and 4.5% transverse lie. Malpresentations are seen in patients with placenta previa as the bulk of the placenta occupies the lower uterine segment.

5. Conclusion

Among pregnant women, the risk for placenta previa in a subsequent pregnancy is in cases with a history of instrumentation, previous caesarean sections, and infertility treatment. We aimed to find a better score, which could be used for the predictability of adherent placenta in future. Women with a history of previous caesarean section, instrumentation, treatment for infertility and multiparity are at risk of failure of normal decidualization at the site of the uterine scar, which leads to abnormally deep trophoblast infiltration. Patients with such a history should be given special attention. First-trimester sonography is done to rule out scar ectopic. Once scar ectopic or placenta previa is diagnosed in pregnant women, the treatment choice must consider the gestational age and risk of maternal and fetal complications. Routine and early sonography-based diagnosis could help minimize morbidity and mortality related to placenta previa. Placenta accreta spectrum presents unique challenges in pregnant patients.

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