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"Study of Feto- Maternal Outcome in Placental Abnormalities"

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Abstract:

Introduction:

The placenta is essential for nutrition and immune regulation during pregnancy. Abnormalities like placenta previa and invasive placentas increase the risk of hemorrhage, threatening maternal and fetal health. Major risk factors include previous cesarean sections, uterine surgeries, and advanced maternal age. Early diagnosis is crucial to reduce complications such as preterm birth and low birth weight.

Materials and Methodology:

This prospective observational study was conducted at NHL Medical College, Ahmedabad, from May 2019 to October 2021, involving 100 cases of abnormal placentas. Women with ultrasonographically diagnosed placental abnormalities after 28 weeks of gestation were included. Management strategies were tailored to individual cases, and outcomes were systematically monitored and analyzed.

Results:

The study revealed that 0.7% of participants had placenta previa, and 0.05% had an abnormally adhesive placenta. Most participants (89%) were aged 21–30, with 72.22%

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being multigravida. Emergency cesarean section was the primary delivery method (87.66%). Postpartum hemorrhage occurred in 31.18% of cases, and 29.03% required blood transfusions. There were no maternal deaths, reflecting improved outcomes. Ultrasound detected placenta previa in 76% of cases, and histopathology showed abnormalities in 1–3%. Management techniques included uterine artery ligation, uterine packing, and obstetric hysterectomy.

Conclusion:

Placenta previa is a serious complication influenced by age, parity, and prior cesarean sections. Early ultrasound detection, family planning, and antenatal care are essential. Vaginal delivery may be possible for minor cases, but cesarean section is the standard for major previa. Managing intra-operative bleeding and performing obstetric hysterectomy may be necessary, with better access to blood products improving maternal and fetal outcomes.

Keywords: Cesarean sections, Hysterectomy, Postpartum hemorrhage, Placenta previa,

Introduction:

The placenta is considered an important organ that evolves with the implantation of the blastocyst throughout the pregnancy. The placenta has an essential role in functions such as nutrition, excretion, and immunologic and endocrine function. Thus, a normal development of the placenta is important for an uneventful embryonic and fetal development. Consequently, the placenta abnormalities can range from structural anomalies, to function disorders, to site of implantation abnormalities. [1]

Placental abnormalities with respect to location and anatomy in pregnancy include low-lying placentas, placenta previa and abnormally invasive placentas. [2] These conditions form a risk of antepartum, intrapartum, and postpartum hemorrhage. In addition,

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they can affect placental functions and interfere with maternal or fetal well-being.[3,4]The etiology of these abnormalities is not well understood and their incidence is increasing, predominantly caused by the rising cesarean section rate.[2,5,6] Other factors that affect the incidence are prior uterine surgeries or curettage, maternal age and multiparity.[2] In addition, the incidence of a low-lying placenta and placenta previa is increased due to endometriosis, smoking, previous placenta previa and assisted reproductive technology.[5,7,8] For abnormally invasive placentas, the additional risk factor is having a placenta previa or having Asherman's syndrome.[9,10] Treatment options are scarce and usually result in a cesarean delivery, increasing yet again the incidence of placental abnormalities in future pregnancies. Higher perinatal mortality occurs due to preterm birth, low birth weight, cord complications, anaemia, asphyxia, birth injury and rarely congenital malformations. Such events can be avoided if this clinical entity is diagnosed early and appropriate treatment is planned.

Materials and Methodology:

This was a prospective and observational study. The study period was from May 2019 to October 2021. The study consists of 100 cases of various abnormal placentas found during deliveries in the Department of Obstetrics & Gynaecology, at NHL, Medical college and hospital, Ahmedabad, Gujarat, India.

Inclusion Criteria:

All pregnant women with: 1. ultrasonographically diagnosed placenta previa (minor & major degrees) 2. with gestational age more than 28 weeks 3. all parity, type of the placental variants and fetal viability 4. diagnosis of placenta accreta, increta or percreta. Registered, unregistered and referred cases were included. As we don't send every placenta for histopathological examination routinely so many microscopic abnormalities may be missed.

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Exclusion Criteria:

All pregnant women: 1. loss to follow- up cases. 2. with gestational age less than 28 weeks. 3. Patient suffering from any other bleeding disorder 4. Bleeding from other causes than placental abnormalities

All antenatal cases were screened by ultrasonography for localization of placenta, irrespective of their gestational age. Patients diagnosed with low lying placenta, placenta accreta placenta increta or other placenta variations, with gestational age more than 28 weeks, irrespective of their parity and fetal viability were included in this study.

History and Examination

Patient history was taken, which included a detailed obstetric history. General, physical and systemic examination was done. General examination included recording the pulse rate and blood pressure. On per abdomen examination, the height of the uterus in weeks, fetal lie, presentation and position, engagement of fetal head, uterine contraction and FHS was noted. Vaginal examination was avoided in cases of placenta previa. P/s examination was done as & when required. Blood samples were collected for routine investigations. Routine investigations included haemoglobin, bleeding time, clotting time, blood grouping and Rh typing. Urine microscopy and examination was done to detect albumin and sugar.

Management:

1. Patients not in labour and without per vaginal bleeding, were sensitized regarding placental localization, warning symptoms and counselled regarding complications associated with placental abnormalities. Routine antenatal follow up was done on OPD bases.

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2. Patients presented with significant complaint of abdominal pain or spotting or mild bleeding per vaginum were observed. Intravenous line secured, all routine investigations and cross-matching done. A patient with good haemoglobin level were offered expectant management. Others, with minimal uterine activity were given tocolysis with maternal and fetal monitoring, and pregnancy was prolonged up to term.

3. Patients who presented with labour pain and/or were presented with excessive bleeding per vaginum were offered active management.

4. Patients in whom expectant management failed due to per vaginal bleeding were shifted from expectant management to active management.

5. In patients where pregnancy was prolonged till term, such patients were taken for elective Cesarean section.

Expectant Management:

Expectant management included adequate bed rest, monitoring of the fetus and correction of anemia with oral/injectable oral iron therapy and blood transfusion as & when required. The aim of blood transfusion was to achieve a maternal hematocrit of 30%. Tocolysis was used sparingly. Tab. Nifedipine 30 mg orally stat, followed by 20 mg tds as and when required. Antenatal steroids were given to patients below gestational age of 34 weeks. Inj. Betamethasone was given in a dosage of 12 mg IM in two doses, 24 hours apart or inj. Dexamethasone 6mg IM in four doses, 6 hours apart to enhance fetal lung maturity.

Active Management:

Active management included termination of pregnancy by caesarean section according to status of the lower segment, either lower segment caesarean section (LSCS) or classical caesarean section. Intra-operatively, patients with excessive bleeding were given blood transfusion. In patients with bleeding sinuses, hemostasis was achieved by applying pressure, haemostatic sutures over placental bed and bilateral uterine arteries

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ligation. Patients with morbidly adherent placenta were considered obstetrics hysterectomy. In patient with atonic PPH, B-lynch sutures were taken. If the uterine tone could not be achieved even after applying haemostatic sutures, obstetric hysterectomy was considered.

Post-partum Management:

In accordance to the fetal and maternal condition, cases were observed and managed. Oxytocin, methyl ergometrine or prostaglandins were used in immediate postpartum hemorrhage in first 24 hours. All the babies delivered were attended and resuscitated by the paediatrician (neonatologist). Babies who needed special care were admitted to the NICU. The maternal and fetal outcome and the complications were recorded for each case. The mother and baby were assessed at the time of discharge and regular follow up was advised in postpartum period. Different predisposing factors and their effects on incidence and outcome were studied. Critical appraisal of expectant/active management, mode of delivery, maternal and fetal outcome was done. Any complication associated with placental abnormalities and their management was recorded.

Result and Discussion:

Table 1: The incidence of placental anomalies in present study

Sr. No.	Description	Value
1	Total number of cases of placenta previa	76
2	Incidence of cases of placenta previa	0.7%
3	Total number of cases of abnormally adhesive placenta	05
4	Incidence of abnormally adhesive placenta	0.05%
5	Total number of cases of placental variants	03
6	Incidence of placental variants	0.03%
7	Total number of cases of histopathologically abnormal placenta	11
8	Incidence of histopathologically abnormal placenta	0.1%

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In present study, peak reproductive age group was found to be 21-30 years (89%). In a comparison of age group distributions across studies, Nasreen Banu et al. [7] in 2009 reported that 95.7% of their participants were within the 21–30 age group. Purohit et al. [8] in 2014 showed a slightly lower percentage of 75.46% in the same age group, while Meena N et al. [9] in 2015 reported 70.43%. In the present study, 88.89% of the participants fell within the 21–30 age group, indicating a higher proportion compared to Purohit et al. and Meena N et al., but slightly lower than the findings of Nasreen Banu et al.

Table 2. Demographic data of study participants

Parameters		No	%
Age	21 – 25 years	52	52%
	26 – 30 years	37	37%
	31 – 35 years	09	9%
	36 – 40 years	02	2%
Gravida score in Placenta previa	Primigravida	21	25.92%
	Second	27	33.33%
	Third	19	23.45%
	Fourth	14	17.28%
Gravida score in Placenta accreta	Primigravida	0	0%
	Second	02	40%
	Third	01	20%
	Fourth	02	40%
Period of Gestation	28 to 33 weeks	38	38%
	34 to 36 weeks	53	53%
	> 37 weeks	09	9%
Number of episodes of bleeding during pregnancy	0	10	12.34 %
	1	47	58.02 %
	2	10	12.34 %
	>2	10	12.34 %
Abdominal pain	Term (>=34weeks)	15	15%
	Preterm (<34weeks)	6	6%
Duration of bleeding	No bleeding	10	12.34%
	<1 Hour	01	1.23%
	1 Hour	59	72.84%
	2-3 Hours	11	13.58%

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In comparing gravidity distributions across studies, Ruiter L et al. [10] (1962–66) reported that 11.1% of their participants were primigravida and 88.95% were multigravida. Similarly, B. Das et al. [11] (1941–70) found 12.2% primigravida and 87.8% multigravida. In contrast, Lea Tuzovic et al. [12] (2003) showed a higher percentage of primigravida participants at 28.4%, with multigravida at 71.6%. Ojha et al. [13] (2012) reported 13.79% primigravida and 61.4% multigravida, while Kauser Jilliani et al. [14] (2010) also recorded 13.79% primigravida but a much lower percentage of multigravida at 41.38%. The present study observed 27.78% primigravida and 72.22% multigravida, aligning more closely with the findings of Lea Tuzovic et al.

In comparing the period of gestation across studies, Yifru Berhan [15] (2014) reported 21.3% of patients between 28–33 weeks and 29.3% between 34–36 weeks of gestation. Ojha [13] (2012) found 18.6% of patients in the 28–33-week range and 22.8% in the 34–36 week range. In contrast, the present study reported a significantly higher proportion of patients, with 44.44% between 28–33 weeks and 55.56% between 34–36 weeks, indicating a higher prevalence of later gestational stages compared to the other studies.

Menon et al [16] (1963) in his review of 117 cases of placenta previa in 30 years showed that 65% patients experienced single bout of bleeding per vagina. Similar study of Ruiter L et al [10] (1968) reported that 70% of patients experienced single episode of bleeding, 18.8% had 2nd episode and 2.3% had three or more episodes of bleeding. In the present study, the bleeding episode to delivery interval ranged from 0 to 3 hours. Ten patients had no bleeding, and one unregistered case had a bleeding duration of ≤1 hour. Among the 59 patients with bleeding lasting over an hour, 49 were registered and 10 unregistered. No cases had a delay of more than 3 hours. Registered patients were informed

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about placenta previa warning signs, enabling them to reach the hospital promptly. Quick access to care, improved health services, and transport facilities contributed to reduced morbidity and mortality in cases of placental abnormalities.

In the present study, 79% of cases had no abdominal pain, consistent with placenta previa and placenta accreta, where pain is typically absent unless in labor. Of the 21 cases with abdominal pain, 15 were near term (≥34 weeks) and 6 were preterm (28 weeks). The most common cause of preterm labor pain was pregnancy-induced hypertensive disorders.

Table 3. Etiological factors

Placental abnormality	Etiology	N
1.placenta previa & abnormally adhesive placenta	Previous LSCS	21 (25.92%)
	Abortion	13 (16.04%)
	Twins	2 (02.46%)
	No identifiable etiology	45 (51.85%)
	Previous history of placenta previa	3(3.70%)
	Tobacco chewing & smoking	0
2. Histopathologically abnormal placenta **(i) Placentomegaly (Placental thickness>5mm)** **(ii) placental calcification**	GDM	12
	PIH Or Pre-eclampsia	4

In the present study, 81 women were diagnosed with placenta previa and abnormally adhesive placenta. Of these, 25.92% had a history of previous cesarean sections, 16.04% had a history of abortion, and 2.46% had twin gestations. Notably, 51.85% had no identifiable risk factors, while 3.70% had a prior history of placenta previa, with no cases of tobacco use or smoking. Placentomegaly was found in 12 cases with

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gestational diabetes, and placental calcification in 4 cases with hypertensive disorders of pregnancy.

In comparing previous cesarean section and abortion rates across studies, Purohit et al. [12] (2014) reported 40% cesarean sections and 16% abortions, while Naheed Rahim et al. [17] (2014) noted 41.4% cesarean sections and 34.48% abortions. Taylor et al. [18] (1995) found 15% cesarean sections and 30% abortions, whereas Kauser Jilliani et al. [14] (2010) reported 30% cesarean sections and 6.89% abortions. Rani P.R. et al. [19] (1999) observed 11% cesarean sections and 9% abortions. In the present study, 25.92% of patients had a history of cesarean sections, and 16.04% had a history of abortions. Clark et al[20] quoted that the migration of placenta away from internal os is impeded by lower uterine scar which would occur in late pregnancy.

Table 4. Maternal hemoglobin and blood transfusion during management

Maternal Hb (gm%)	No. of units of blood transfused				Total no. of patients with blood transfusion	Total no. of patients with no blood transfusion	Total no. of patients
	1 Unit	2 Unit	3 Unit	4 Unit			
6 – 8	0	2	2	2	6	0	6
8.1 – 10	18	10	1	0	29	3	32
10.1 – 14.1	21	3	0	2	26	36	62
Total	38	15	3	4	61	39	100

The table shows the blood transfusions given based on haemoglobin levels during patient management. A maximum of 4 units was transfused to 4 patients—2 with haemoglobin between 6–8 g/dl and 2 between 10.1–14 g/dl. Transfusion needs were based on baseline haemoglobin levels and blood loss during cesarean sections and obstetric hysterectomies for placenta accreta. Of 35 patients with placental abnormalities, 35 were Anemic (Hb <10 g/dl), including 6 with severe anemia, likely due to malnutrition, poor

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hematinic use, and repeated bleeding episodes. Haematocrit was maintained at 30% through iron therapy and transfusions.

Comparing the present study with Khosla et al. [21] (1982–87), which reported that 91% of anaemic patients required blood transfusions, only 38.89% of anaemic patients needed transfusions in the current study. This indicates an improvement in clinical conditions and haemoglobin levels among patients.

Table 5. Relation between presentation of fetus and type of placental abnormalities

Type of placental anomalies	Presentation	Total
1.Placenta previa & placenta accreta	**Breech**	07(08.64%)
	Cephalic	72(88.88%)
	Multifetal gestation	02(02.46%)
2.Histologically abnormal placenta	**Breech**	04(21.05%)
	Cephalic	13(68.42%)
	shoulder	02(10.52%)
Total		100(100%)

In present study, 29.69% of cases presented with breech & 10.52% presented with shoulder presentation. Similar other studies shown rise in the incidence of placenta previa.

In a comparison of fetal presentations in cases of placenta previa across various studies, Rani P.R. [19] (1999) reported 7% of cases with placenta previa and 12% in breech presentation. In the present study, 7.27% had placenta previa with no shoulder presentations. Viraj R N [22] (2018) documented 8.49% with placenta previa and 10.38%

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in breech presentation. This highlights the variability in fetal presentations associated with placenta previa across different studies.

In the study of 81 patients with placenta previa, 71 (87.66%) underwent emergency LSCS, while 10 (12.34%) had elective LSCS. Placenta accreta was primarily diagnosed during surgery, though it can also be detected via ultrasound. Emergency LSCS was performed for other abnormalities such as placentomegaly with macrosomia or malpresentation. Preterm vaginal deliveries occurred in cases of PIH or preeclampsia with IUGR, but the presence of bleeding episodes often necessitated cesarean delivery. None of the patients were induced for vaginal delivery due to antepartum hemorrhage (APH) and lack of labor. Overall, cesarean section remains the gold standard for managing placental abnormalities.

Table 6. Mode of delivery

Type of abnormality	Route of delivery	No. of cases	Percentage (%)
1.Placenta previa	**Emergency LSCS**	71	87.66%
	Elective LSCS	10	12.34
	Total	81	100%
2.Placenta accreta	**Emergency LSCS**	05	100%
	Elective LSCS	0	0
	Total	05	100%
3.Rest of the abnormalities	**Emergency LSCS**	08	42.11%
	Elective LSCS	01	05.26%
	Vaginal (i)At term	06	31.58%
	(ii)At preterm	04	21.05%
	Total	19	100%

In a comparison of delivery modes across studies, Yifru Berhan et al. [14] (2014) reported that 7.1% of deliveries were vaginal and 92.9% were cesarean sections (LSCS). Purohit et al. [8] (2014) noted 16.99% vaginal deliveries and 83.01% LSCS. Viraj et al. [22] (2018) found 18.87% vaginal and 81.13% cesarean deliveries. In contrast, the present

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study revealed that 0% of deliveries were vaginal, with 100% resulting in LSCS. This indicates a significant shift towards cesarean delivery in the current findings compared to previous studies.

Table 7. Intra & post operative complications during management

Complications	No. of cases	Percentage (%)
Intraoperative complications		
PPH	29	31.18%
Blood Transfusion	27	29.03%
Hysterectomy	06	06.45%
Adherent placenta	05	05.37%
Postoperative complications		
Sepsis	01	01.07%
Febrile Morbidity	0	0
Maternal Mortality	0	0

In the present study, 93 patients underwent LSCS, with 31.18% experiencing postpartum hemorrhage (PPH) and 29.03% receiving blood transfusions for it. There were no cases of febrile morbidity post-operatively, and the overall incidence of PPH was 31.48%. Six patients required obstetric hysterectomy due to placenta previa and accreta, while one patient developed a wound gap, classified as puerperal sepsis.

The maternal mortality rates from various studies highlight significant variability over time. Menon [23] (1953-57) reported a rate of 2.7%, while Ruiter L et al. [10] (1969) recorded 1.7%. B. Das [11] (1970) found a rate of 2.1%, and B. Rao [24] (1989) noted a higher rate of 3.4%. followed by Oyelese & Smulian (2006) [25] at 3.0%. In contrast, the present study reported a remarkable maternal mortality rate of 0%, indicating significant improvement in maternal health outcomes compared to earlier research. This was due to prompt correction of hemorrhagic shock by liberal use of crystalloids, colloids and blood transfusion and timely definitive treatment.

Table 8. Type of placental abnormalities seen on ultrasonography / histopathology image

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ULTRASONOGRAPHY IMAGE	FREQUENCY	PERCENTAGE
1.Placenta previa	76	76%
2.Placenta accrete	03	03%
3.Placental thickness(>5mm)	12	12%
4.Placental variants (Bilobed placenta, Succenturiate lobe)	03	03%
HISTOPATHOLOGY IMAGE		
1.Placental microinfarcts	1	01%
2.Placental calcification	3	03%
Total	100	100%

Ultrasonography identified the type of placenta, which was later confirmed during surgery. The most common placental abnormality was placenta previa (76%). While ultrasonographic abnormalities are easily detected due to frequent antenatal scans, histopathological abnormalities are often missed as placentas are not routinely sent for examination. Common findings include microinfarcts and calcification, particularly in cases of gestational diabetes mellitus (GDM) and pregnancy-induced hypertensive disorders.

The distribution of placental types across various studies reveals notable variations. In the study by Daskalakis G et al. [26] (2011), Type I was reported at 20.7%, while Ojha et al. [13] (2012) found a higher rate of 25.7%, and the present study recorded 24.07%. For Type II, Daskalakis G et al. [26] reported only 5.3%, whereas Ojha et al. [13] noted a significantly higher rate of 38.6%, with the present study finding 18.52%. Type III rates were similar across studies, with Daskalakis G et al. at 20.5%, Ojha et al. at 14.3%, and the present study at 20.37% [13,26]. Lastly, Type IV was most prevalent, reported at 51.5% by Daskalakis G et al., 21.4% by Ojha et al., and 37.04% in the present study. These findings underscore the variability in the prevalence of different placental types across studies.

Table 9. MANAGEMENT OF INTRA-OPRATIVE HAEMORRHAGE

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Management of PPH	No. of Cases	Percentage (%)
1.Bilateral uterine artery ligation (BUAL)	09	33.33%
2.Intrauterine packing	16	48.48%
3.Combine methods (BLUAL + Intrauterine packing	02	06.06%
4.B Lynch suture	02	06.06%
5.Obstetric hysterectomy	05	15.15%
Total	33	100%

In the present study, 33% of patients experienced intra-operative hemorrhage, with 16 patients requiring pressure for hemostasis. Complete hemostasis was achieved through bilateral uterine artery ligation and/or uterine packing, while B-Lynch sutures were applied in two cases of atonic postpartum hemorrhage (PPH). Five patients underwent obstetric hysterectomy due to morbidly adherent placenta, with hypovolemia corrected via blood transfusion. Although adherent placenta is uncommon, with an incidence of 1 in 7,000 deliveries according to Breen J. L et al. (1977) [27], five cases were identified, one diagnosed intra-operatively and three through ultrasound. Intra-operative bleeding was managed with pressure application, suturing of bleeding sinuses, and uterine vessel ligation, resorting to hysterectomy if necessary. Early puerperal complications included a single case (1.05%) of wound gap considered puerperal sepsis, while other complications like urinary tract infections were not observed. The lower incidence of puerperal sepsis may be attributed to routine prophylactic antibiotics, prompt anemia correction, and strict aseptic techniques.

Table 10. Fetal outcome in patients of placental abnormalities

Outcome	No. of cases	Percentage
IUD	2	01.94%
Neonatal death	4	03.88%
Live	97	94.17%
Total	103	100

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The fetal outcome in patients of placental abnormalities 97(94.17%) live births, 4 neonatal deaths due to preterm and prematurity followed by early onset septicemia and difficulty in maintaining saturation of preterm babies. 2 cases are reported to be IUD.

The findings related to live intrauterine device (IUD) use, stillbirths, and neonatal deaths across various studies highlight notable variations. Gayatri Mathuriya et al. [28] (2013) reported a live IUD rate of 65.71%, with stillbirths at 0% and neonatal deaths at 20.71%. Purohit et al. [8] (2014) found a live IUD rate of 67.92%, stillbirths at 15.1%, and neonatal deaths at 1.9%. Yifru Berhan et al. [14] (2014) observed a live IUD rate of 55.3%, with stillbirths at 0% and neonatal deaths at 34.4%. Ojha et al. [13] (2012) recorded a significantly higher live IUD rate of 88.6%, with stillbirths at 0% and neonatal deaths at 1.4%. In the present study, the live IUD rate was the highest at 92.73%, with stillbirths at 1.82% and no neonatal deaths. These results illustrate the varying outcomes associated with live IUD use across different studies.

Table 11. APGAR SCORE

APGAR SCORE	0	<4	4 – 7	>7	Total
No. of babies	02	04	80	16	103
Percentage (%)	01.94	03.88	77.66	15.53	100

The APGAR score at 5 minutes after the birth has been noted, where 16 babies had an APGAR of more than or equal to 7. 80 babies had an APGAR score between 4-7. In the present study, 77.66% of babies required resuscitation and neonatologist at the time of birth.

Table 12. NICU ADMISSION

Morbidity	No. of babies		Total
	Survived	Expired	
NICU admission	26 (25.74%)	04 (03.96%)	30 (29.70%)
No admission required	71 (70.29%)	0	71 (70.29%)
Total	97(96.03%)	04(03.96%)	101 (100%)

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In the study of 101 babies, 97 survived, while 2 were stillbirths. Among the 101 live births, 30 required NICU care, resulting in 4 deaths and 26 discharges. Additionally, 71 babies did not need NICU admission. Thus, 70.29% of babies received resuscitation without NICU, while 29.70% required NICU admission, both with good survival rates.

Table 13. Relation between baby weight and perinatal mortality

Baby weight	Perinatal mortality			Total births
	IUD	Neonatal Death	Alive	
<1 kg	2	2	0	4
1 – 1.5 kg	0	2	0	2
1.6 – 2 kg	0	0	24	24
2.1 – 2.5 kg	0	0	39	39
>2.5 kg	0	0	34	34
Total	2	4	97	103

The study reported two cases of intrauterine death, with both babies weighing less than 1 kg at delivery. Additionally, four cases of neonatal mortality occurred, involving babies weighing between 1 and 1.5 kg. Among 97 live births, 26 weighed below 2 kg, and all four perinatal mortalities were associated with placenta previa, primarily due to prematurity. The perinatal mortality rate was 3.96%, with increased mortality observed in babies weighing less than 2 kg. Notably, none of the babies over 2 kg died. Historical data from Daftari et al. (1962) [29] indicated that perinatal mortality rates for babies with placenta previa were 60% for those under 2 kg and 19.04% for those over 2 kg, compared to 25% in the current study for babies under 2 kg.

Conclusion:

In conclusion, placenta previa is a serious pregnancy complication associated with bleeding, influenced by factors like age, parity, and prior cesarean sections or abortions. Effective family planning and antenatal care, including early ultrasound detection and conservative management, are crucial. While vaginal delivery is possible in minor cases, cesarean section remains the gold standard for major previa. Intra-operative bleeding can

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be managed with various techniques, and obstetric hysterectomy may be necessary for adherent placenta. Improved access to blood products and surgical practices has enhanced maternal and fetal outcomes.

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