# Maternal and Perinatal Outcomes in Placenta Previa

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## ABSTRACT

Background: detection of the Sociodemographic pattern and maternal, perinatal outcomes of pregnant mothers with placenta previa. Setting: This prospective research done at government General Hospital (Al-Sadder Teaching Hospital), Misan, Iraq during the period of October 2016 to April 2017. Patients & methods: all Women who complaint of painless vaginal bleeding or those diagnosed as having placenta previa on routine ultrasound examination after 28 weeks of gestational age were included in this research and were evaluated with demographic profile, comprehensive maternal history, clinical examination, laboratory investigation, type of placenta previa on ultrasound examination, impact of previous mode of delivery and present mode of delivery, maternal and perinatal complications, the incidence of primary postpartum hemorrhage and the need for transfusion of blood were noted. Results: Incidence of Placenta previa was 0.6% (40/6512). Mean age of presentation was 31yrs. Multigravida (90%), (82.5%) presented between 28-36+6 weeks gestational age and (17.5%) presented between 37 - 42 weeks, Antepartum hemorrhage (62.5%), malpresentation (20%), women with previous history of surgical intervention (55%), (25%) with previous cesarean delivery, (12.5%) with dilatation and Curettage for abortion, and (17.5%) with both. (22.2%) had Postpartum hemorrhage, (42.5%) needed blood transfusion, (2.5%) abdominal hysterectomy was done, Neonatal intensive care unit admission (30.5%) because of (jaundice, preterm baby, dyspnea and cyanosis, hydrops Fetalis), maternal mortality was nil and neonatal mortality was (5.5%). Conclusion: The presence of placenta previa carries a great danger to the mother & her baby with a high risk of adverse maternal & perinatal outcomes if not treated in the proper time .

**Keywords:** Placenta previa, Antepartum hemorrhage, Postpartum hemorrhage, Maternal mortality, Perinatal mortality.

## INTRODUCTION

A leading cause of maternal death and perinatal morbidity and mortality is obstetrical hemorrhage[1]. About one-third cases of antepartum hemorrhage belong to placenta previa. The incidence of placenta previa ranges from 0.5%-1% amongst hospital deliveries. In 80% cases; it is found in multiparous women [2]. Placenta previa is a major risk factor for obstetric hemorrhage especially women with a previous uterine scar [3]. The risk of peripartum hysterectomy increased with the number of previous cesarean deliveries the mother is having [4]. The Latin previa mean going before and in this sense, the placenta goes before the fetus into the birth canal. In obstetrics, placenta previa describes a placenta that is implanted somewhere in the lower uterine segment, either over or very near the internal cervical os [5].

Placenta previa is now classified as either major, in which the placenta covers the internal cervical os, or minor, when the placenta is sited within the lower segment of the uterus, but does not cover the cervical os. This has replaced the older I-IV classification system [6], where in grade I the placental edge is in the lower uterine segment but does not reach the internal os, grade II it reaches the internal os but does not cover it, grade III it covers the internal os and is asymmetrically situated & in grade IV it covers the internal os and centrally situated [7]. A new revised classification with 3 categories only includes: placenta covers Internal os (IO), Low lying placenta (LLP); placenta edge less or equal 2 cm from IO, Normal if more than 2 cm from IO [8]. The exact etiology of placenta previa is unknown. Risk factors includes: advanced maternal age(>35yrs), subfertility treatment, multiparity, multiple pregnancy, short interpregnancy interval, previous uterine surgery, uterine injury, previous cesarean deliveries, previous or recurrent abortions, previous placenta previa, nonwhite ethnic group, low socioeconomic status, smoking & cocaine use. The gold standard for the diagnosis of placenta previa is the use of transvaginal ultrasound [9]. Placenta previa is associated with maternal and neonatal complications, including preterm delivery and postpartum hemorrhage [10]. Prenatal identification of Placenta previa either at the onset of first episode of

bleeding or by routine ultrasound examination will likely result in improved outcomes [11]. The current study is aimed to search for the Sociodemographic pattern, maternal and perinatal outcome of placenta previa.

## PATIENTS AND METHODS

The study was conducted at a government general hospital (Al-Sadder Teaching Hospital), Misan, Iraq during the period of October 2016 to April 2017. It was a prospective study. Women with more than 28 weeks of gestational age with a complaint of painless vaginal bleeding or those diagnosed as having placenta previa on routine ultrasound examination were included. The study exclude cases with multifetal gestation & cases with gestational age below 28weeks. Patients were evaluated with maternal history, clinical, laboratory and ultrasound examination and Sociodemographic profile (It is often measured as a combination of education, income and occupation), type of placenta previa on ultrasound examination. The patients were delivered by lower uterine segment cesarean section at 37 weeks of gestation or when there is an acute episode of vaginal bleeding , impact of previous method of delivery and present method of delivery, maternal and perinatal complications, incidence of postpartum hemorrhage and the need of blood transfusion(which usually started when there is severe bleeding), were noted.

## RESULTS

During the period of study there was a total of 6512 deliveries. Forty cases of placenta previa were registered equivalent to the incidence of 0.6%. The mean age is 31yrs. Seven (17.5%) of patients have maternal age more than 35 years. 36 (90%) of patients were multiparous women, 26 (65%) of them grand multiparous. 40 % of patients live in rural areas. Out of the 40 patients 24 (60%) are of low socioeconomic status, 15 (37.5%) medium and one (2.5%) high status. 12 (30%) cases are passive smokers. [Table 1]

**Table 1 : Sociodemographic data of pregnant women**

| Parameter | | No. of women | Percentage |
|---|---|---|---|
| Age | 35 yrs or less | 33 | 82.5 |
| | > 35 yrs | 7 | 17.5 |
| Parity | Primi | 4 | 10 |
| | Multi | 36 | 90 |

| | | | |
|---|---|---|---|
| | Grand | 26 | 65 |
| Residence | Rural | 16 | 40 |
| | Urban | 24 | 60 |
| Socioeconomic status | High | 1 | 2.5 |
| | Medium | 15 | 37.5 |
| | Low | 24 | 60 |
| Smoking | Passive | 12 | 30 |

Thirty three women (82.5%) presented with a gestational age of 28-36 weeks+6 days and 7 (17.5%) presented with gestational age between 37 weeks till 42 weeks. Antepartum hemorrhage was present in 25 (62.5%) of patients. 22 (55%) has previous history of operative intervention. (10 cases with previous cesarean section, 5 cases had abortion with Dilatation and Curettage and 5 cases had both). 14 (35%) with previous normal vaginal delivery, and 4 cases were primi. 4 (10%) had a previous uterine surgery. 5 (12.5%) has a previous history of placenta previa. No women had multiple pregnancy. 7 (17.5%) patients has a history of infertility, 6 primary and one secondary, all patients treated by medications only. Abnormal lie were present in eight (20%) patients. Of these 6 were breech, zero oblique lie, and two in transvers lie. [Table 2]

**Table 2 : Obstetric evaluation and associated risk factors**

| Parameter | | No. of women | Percentage |
|---|---|---|---|
| GA at the time of presentation | 28 – 36wks + 6days | 33 | 82.5 |
| | 37- 42 weeks | 7 | 17.5 |
| Antepartum hemorrhage | Yes | 25 | 62.5 |
| | No | 15 | 37.5 |
| Previous obstetric outcome | No | 4 | 10 |
| | Vaginal | 14 | 35 |
| | Lower segment cesarean section(LSCS) | 10 | 25 |
| | Abortion | 5 | 12.5 |
| | LSCS and Abortion | 7 | 17.5 |
| Previous uterine surgery, uterine insult or injury (other than CS, curettage) | ---------- | 4 | 10 |

| | | | |
|---|---|---|---|
| Previous P.P. | ---------- | 5 | 12.5 |
| Multiple gestation | ---------- | 0 | 0 |
| Infertility treatment | Primary | 6 | 15 |
| | Secondary | 1 | 2.5 |
| Presentation and lie of fetus | Cephalic | 32 | 80 |
| | Breech | 6 | 15 |
| | Oblique | 0 | 0 |
| | Transverse | 2 | 5 |

Regarding the types of placenta, there were fifteen (37.5%) patients with major type of placenta previa, out of the 15 cases 2 of them were morbidly adherent placenta one placenta accrete and the other placenta increta. 25 (62.5%) patients with minor type of placenta previa. 34 (94.4%) patients delivered by lower segment cesarean section, 2 cases delivered vaginally. [Table 3]

**Table 3 : Types of placenta previa based on Ultrasonography + Intraoperative evaluation**

| Placenta previa types | Ultrasonography evaluation | | Intraoperative evaluation | |
|---|---|---|---|---|
| | No. of women | Percentage | No. of women | Percentage |
| Major | 14 | 35 | 1 | 2.5 |
| Minor | 25 | 62.5 | 0 | 0 |

After delivery eight (22.2%) mothers suffered from postpartum hemorrhage which was treated conservatively apart from one case (2.5%) needed peripartum hysterectomy because of morbidly adherent placenta. 17 (42.5%) patients needed blood transfusion, only 2 (11.7%) patients needed more than 4 pints. There is no maternal mortality. [Table 4]

**Table 4 : Maternal complications**

| Parameter | | No. of women | Percentage |
|---|---|---|---|
| Mode of delivery | Vaginal | 2 | 5.5 |
| | Cesarean | 34 | 94.4 |
| PPH | Yes | 8 | 22.2 |
| | No | 28 | 77.7 |
| Blood transfusion | 4 or less | 15 | 88.2 |
| | More than 4 | 2 | 11.7 |
| Cesarean hysterectomy | | 1 | 2.5 |
| Maternal mortality | | 0 | 0 |

Of the 36 cases, 34 delivered a live births, 0 still births and 2 babies died. 21 (58.3%) term babies and 15 (41.6%) preterm babies, 11 babies required NICU admission. Causes of admission were 3 of them dyspnea, 4 preterm babies, one hydrops fetalis, 2 jaundice and one respiratory distress syndrome. [Table 5]

**Table 5 : Details of babies**

| Parameter | No. of babies | | Percentage |
|---|---|---|---|
| Maturity (GA) | Preterm | 15 | 41.6 |
| | Term | 21 | 58.3 |
| Live / Dead | Live | 34 | 94.4 |
| | Dead | 2 | 5.5 |
| | Stillbirth | 0 | 0 |
| NICU admission | 11 | | 30.5 |

## DISCUSSION

The result of present study revealed that the incidence of Placenta previa was 0.6%, this is similar with a study done by lavanyakumari et al. which was also 0.6%. [11]. Increasing age of the mother and high parity are considered as a risk factors for placenta previa in many studies [11,12,13,14,15]. This study showed that over half of patients were above 30 years and almost two third (65%) of them were grand multiparous women. The present study found that 12 (30%) patients were passive smokers. Some studies found an association between smoking during pregnancy and Placenta previa [16].

Regarding previous obstetric history 10 (25%) women had a previous LSCS, 5 (12.5 %) women had a history of abortion and 7 (17.5%) women had both LSCS and D&C. History of previous abortion was 26.5% in Nankali et al.[17]. In other studies the percentages of previous abortion were significantly higher in women with placenta previa [18]. In the current study 2.5% of cases with PP had caesarean hysterectomy while the incidence is higher in other studies 5.3% and 5% respectively [19,20]. In the present study 20% of cases of PP had malpresentation while it was (25%) in other studies (25%) [21,22,23].

Incidence of blood transfusion is (42.5%) in the current study, while in other studies the reported percentage was 36% and 52.4% respectively [24, 25]. The high percentage of blood transfusion is due the presence of anemia. The

incidence of PPH is 22.2% which is similar to a study done by Crane et al [26]. In the present study, prematurity (gestational age <37 weeks) was 35% and 30% admission to NICU. While in other study prematurity was 13.5% and admission to NICU 17%, this is probably because of poor antenatal care which result in a delay in the diagnosis of placenta previa and as a consequence both the mother and her baby will face a hazard [27].

## Conclusion

placenta previa accounts for approximately 0.6 % of all deliveries. Majority of the patients were unaware about the importance of antenatal visits, with poor educational standards and were of low socioeconomic status. Increasing use of cesarean section results in increasing incidence of placenta previa. Placenta previa complicating pregnancy is responsible for significant maternal and neonatal morbidity and mortality.

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## تأثير المشيمة المتقدمة على الام والجنين

### ملخص البحث

خلفية البحث: الكشف عن النمط الاجتماعي الديموغرافي و تأثيرالمشيمة المتقدمة على الام والجنين.

موقع البحث : تم اعداد هذا البحث في المستشفى الحكومي العام (مستشفى الصدر التعليمي)، ميسان، العراق خلال الفترة من أكتوبر 2016 إلى أبريل 2017

طريقة الاعداد\الحالات والطرق: جميع النساء اللواتي شكون من النزيف المهبلي غير المؤلم أو تلك التي تم تشخيصها على أنها مشيمة متقدمة عن طريق الفحص بالموجات فوق الصوتية بعد 28 أسبوعا من الحمل تم تضمينها في هذا البحث وتم تقييمها مع المعلومات الديموغرافية للحامل، التاريخ المرضي للأم، الفحص السريري، التحليل المختبري ، نوع المشيمة المتقدمة من خلال فحص الموجات فوق الصوتية، طريقة الولادة السابقة والحالية، ومضاعفات الولادة على الأم والوليد، حدوث نزيف اولي بعد الولادة والحاجة لنقل الدم.

النتائج: كانت نسبة المشيمة المتقدمة 0.6٪ (6512/40). متوسط عمر المرضى كان 31 عاما. ٪ 90 من المريضات كن متعددات الاطفال، (82.5٪) من المريضات ذوات مدة حمل بين 28-36 + 6 أسبوع و (17.5٪) بين 37-42 أسبوعا. 62.5% من المريضات عانت من نزف قبل الولادة، (20٪) من المريضات كان وضع الجنين في الرحم غيرطبيعي ، (55٪) من المريضات كان عندهن عمليات سابقة في الرحم، (25٪) عندهن ولادة قيصرية سابقة، (12.5٪) عملية كورتاج ، و (17.5٪) كلتيهما. (22.5٪)كان لديهن نزيف بعد الولادة، (42.5٪) احتجن نقل دم، و (2.5٪)احتجن استئصال الرحم ، تم ادخال (30.5٪)من الاطفال للوحدة المركزة لرعاية حديثي الولادة لأسباب مختلفة (اليرقان، وضيق التنفس ،زرقة)، لم تحدث اية وفاة للأمهات خلال فترة الدراسة، ولكن وفيات الأطفال حديثي الولادة كانت (5.5٪).

الاستنتاج: وجود المشيمة المتقدمة يمثل خطرا كبيرا على الأم وطفلها مع امكانية حدوث نتائج سلبية إذا لم تعالج في الوقت المناسب.