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# Predisposing factors and pregnancy outcome in different types of Placenta Previa

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## Abstract

**Objective:** To compare risk factors and pregnancy out come between different types of placenta previa.
**Study design:** Prospective study of 103 patients with placenta previa admitted to Basra Maternity and Child Hospital and Basra General Hospital. Differences between women with major and minor placenta Previa considering age, parity, history of caesarean section, APH, Preterm deliveries, PP accreta, caesarean hysterectomy, operative complications and neonatal out come were studied . Chi Square test used for analysis .
**Setting: -** Room delivery in Basra Maternity and Child Hospital and Basra general Hospital.
**Materials and Methods:** A total of 103 patients were collected for one year from October 2010 to October 2011 suffering from placenta previa in different types I, II.III and type IV. Only singleton pregnancies beyond 24 weeks gestation were selected in this study.
Careful history taking and physical examination was done and the most recent ultrasound result was dependable if the patients had more than one ultra Sound was done.
**Results:** Results obtained from this study pointed out the effect of placenta previa in different grading on the pregnancy and neonatal out come in those patients were selected in this study. We found that there were no differences between women regarding age. Major P.P were more common in parous women compared to nullipara (45.2% , 3. 3%) respectively. Previous abortions and prior caesarean sections represent major risk factors. Women with major P.P showed significantly higher incidence of placenta accrete , hysterectomy and post operative complications. There was no significant difference regarding neonatal out come in different types of P. P.
**Conclusions and Recommendations:** It can be concluded that women with major PP are at an increased risk of ante partum bleeding, are more likely to have placenta accreta and are more likely to require hysterectomy and to have postoperative complications than women with minor degrees of PP. To reduce morbidity, the delivery of these women should be planned in an institution with optimum facilities and with preset precautions.

**Keywords:** pregnancy, Placenta previa. physical examination, hysterectomy.

**List of Abbreviations:** PP Placenta previa; P. P. A Placenta previa accreta; APH Ante partum hemorrhage
C.S Caesarean Section ; NCU Neonatal care unit; IUD Intra uterine death; TVS Trans vaginal scan; TAS Trans abdominal scan

## Introduction

Placenta previa (P.P ) occurs when the placenta is wholly or partially implanted in the lower uterine segment . The exact cause of P.P is not known , but its association with various risk factors such as advanced maternal age , multiparity, previous miscarriages, previous caesarean section, and cigarette smoking is well documented.(1,2,3) Traditionally , PP is classified as "complete " When the placenta completely covers the internal cervical os , "partial " when the placenta partially covers the os , "marginal " when the lower edge of the placenta just reaches the os , and "low – lying" when the placenta is in the lower segment but does not reach the internal os(4). Complete and partial PP are considered "major placenta previa' , while marginal PP and low lying placenta are considered "minior placenta previa " (5,6) . In recent years , ultrasound scanning has led to more accurate localization of the placenta . Nonetheless, the relationship between the different types of PP. associated risk factors, and pregnancy outcome is poorly characterized . Although the clinical course of placental previa is highly suggestive, the etiology of this condition still retrains obscure .The strongest connection was found between previous history of cesarean section (7, 8-12) , high parity (8,9,12) , and advanced maternal age ( 13) , but the strength of the connection varies from study to study.

Other potential risk factors with more confounding effect on the development of placentaprevia include history of previous spontaneous or induced abortions (14,9) , increasing number of previous cesarean sections (10-11) ,previous uterine operations , previous placenta previa(15),smoking(16,17) or Substance abuse during pregnancy (18 ), multiple gestation(19), and child sex at birth (20-21 ). Placenta accreta is a rare but fearsome obstetric condition. It can occur with placenta previa and even in a normally situated placenta , When it occurs in a normally situated placental, it is not usually suspected antenatally ,and is usually discovered during manual removal of the placenta .Most cases of placental accreta are associated with placental previa, especially in patients with previous history of lower segment cesarean section (22-23) .

### What is the placenta?

The placenta is the organ responsible for providing endocrine secretions and Selective transfer of substances to and from the fetus. It serves as an interface between the mother and the developing fetus (24) .

### Embryological development

After fertilization, the zygote enters the uterus in 3-5 days and continue to divide to become the blastocyst . Implantation of the blastocyst starts on day 7 and is finished by day11.

The inner cell mass of the blastocyst forms the embryo, yolk sac and amniotic cavity, the trophoblast forms the future placenta, chorion, and extra embryonic mesodern(24 -25). When the blastocyst embeds in the deciduas, trophoblastic cells differentiate and the embryo becomes surrounded by two layers of trophoblasts, the inner mononuclear cytotrophoblast, the outer multinuclear syncytiotrophoblast . The invading trophoblast penetrates endometrial blood vessels forming intertrophoblastic maternal blood - filled sinuses (lacunar spaces). Trophoblastic cells advance as early or primitive villi, each consisting of cytotrophoblast surrounded by the syncytiurn. These villi mature in to the secondary and tertiary villi and the mesodermal core developed to form fetal blood vessels (completed by day 21). On day 16-17, the surface of the blastocyst is covered by branching villi which are best developed at the embryonic pole, the chorion here is known as chorionic frondosum, the future placenta develops from this area. Simultaneously, the lacunar spaces become confluent with oneanother and by weeks 3 - 4, form a multilocular receptacle lined by syncytium and filled with maternal blood. This becomes the future interlillous space. With future growth of the ernbryo the decidua capsularis becomes thinner and both villi and the lacunar spaces in the decidua are obliterated, converting the chorion into chorionic levae. The villi in the chorionic frondosum show exuberant division and subdivision and with the accompaniment proliferation of mam the decidua basalis, the future placenta is formed. This process starts at 6weeks and the definite numbers of stem villi are established by 12 weeks(24-25) .

Placental growth continues to term. Until week 16 the placenta grows both in thickness and circumference due to the growth of the chorionic villi with accompanying expansion of the intervillous space. After 16 weeks growth occurs mainly circumferentially.

## Macroscopic features of the placenta at term

The placenta at term displays around disk like appearance with insertion of the umbilical cord in a slightly eccentric position on the fetal side of the placenta . The average measures of a delivered placenta at term are a diameter of 22cm, and weight of 450 - 500gm . One has to keep in mind, though, that these data may vary considerably due to the mode of delivery, especially content versus loss of maternal and / or fetal blood (26-28). It occupies about 30% of the uterine wall at term and has two surfaces: fetal and maternal surfaces, the fetal surface is covered by a smooth, glistening amnion with the umbilical cord usually attached at or near its center. while maternal surface has a rough and spongy appearance and is divided into several velvety bumps called the cotyledons (15-20) by septa arising from the maternal tissues (24-25,27) .

## Abnormal Placentation

Placenta previa is a placenta that is implanted entirely or in part in the lower uterinesegmant, it is an abnormal implantation of the placental over the internal cervical os in which the placenta is partially or wholly located in the lower uterine segment (29,30, 40) .

## Incidence:

Placenta previa occurs in 0.5% of pregnancies (1: 200birth) and accounts for nearly 20% of all ante partum hemorrhage at term (30) . The incidence is increased now because of an increasing of using ultra sound and an increase rate of cesarean section .

## Classifications:

The placenta previa can be divided into four grades:

1. The placenta encroaches on the lower segment but does not reach the internal cervical os (low lying placenta).
2. The placenta does reach the edge of the cervix but does not cover it (marginal placenta).
3. The placenta does cover the cervix but would not do so at full cervical dilatation (partial placenta).
4. The placenta is symmetrically implanted in the lower segment so that covers, or is judged would cover, the cervix at full dilatation (central placenta) (29) .

## Predisposing factors of placenta previa:

### 1. Uterine surgery:

Placenta previa is strongly associated with previous uterine Surgery. Its incidence increases with the number of procedures performed. For unknown reasons, prior cesarean delivery increases the risk for placenta previa The incidence was 1.3% for those with one prior cesarean delivery and 3.4% in women who had six or more cesarean deliveries (26) .Women with 2 or more previous abortions have a 2.1 times (95%) increased risk of subsequently developing placenta previa, other procedures such as curettage and myomectomy also increase the risk of previa(7,26). The risk of accrete(which is defined as the abnormal invasion of the placenta in to the uterine Wall) is increased in women with placenta previa in the setting of cesarean delivery and in 15-30% of women with one prior cesarean section, 25 - 50% in women with two prior cesareans, and in 29 - 65% of women with three or more prior cesarean sections (30) .

**2. Maternal factors:** • Maternal age: - Placenta previa increases dramatically with advancing maternal age, with women older than 40 years having nearly nine fold greater risk than women under the age of 20 (41) • Multi parity is also associated with an increased risk for placenta previa (2.2% incidence in women para5or greater was increased significantly compared with that of women with low parity. 26) Multi fetal gestations compared with singletons reported the rate of placenta | previa to be 40% higher (26)

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Multi fetal gestations compared with singletons reported the rate of placenta previa to be 40% higher (26) .

### 3.Smoking :

The relationship ship between placenta previa and smoking is not clear, but there does appear to be a small but significant increase in risk in smokers. (41)

"In some authors, cigarette smoking act as a relative risk of placenta previa"(26) .

## Associations

Fetal abnormality: The Fate of fetal abnormality is approximately doubled in women with placenta previa.(41)

Intra uterine growth restriction: Is common in women with multiple bleeds from a placenta previa. The overall rate is 15%.

Maternal serum alpha - fetoprotein are of great association with P.P specifically in Women With unexplained elevated its screening level. (41)

Ten percent of women with a bleeding P.P will have a co-existent abruption.

## Clinical finding

The most characteristic event in placenta previa is painless hemorrhage, which usually does not appear until near the end of the second trimester or after. However bleeding may begin some abortions may result from such an abnormal location of the developing placenta (26). The first hemorrhage associated with placenta previa usually not severe .The hemorrhage is typically painless although, this is not invariable (29). In some women particularly those with a placenta implanted near but not over the cervical os, bleeding does not appear until the onset of labor.

The cause of hemorrhage is reemphasized: when the placenta is located over the internal os, the formation of the lower uterine segment and the dilatation of the internal os result inevitably in teething of placental attachments. , hemorrhage from the implantation site in the lower uterine segment may continue after deposition delivery because the lower uterine segment contracts poorly (26).

Abdominal examination, show the uterus to be soft not tender. The fetal heart rate is usually normal. The fetal lie may be oblique or traverse and it is usually high head or fetal mal presentation (29). Vaginal examination outside a fully equipped and prepared operating theater is absolutely contraindicated (29).

## Diagnosis

The possibility of placenta previn should not be dismissed until sonographic evaluation has clearly proved its absence. The simplest, safest, and most accurate method of placental localization is provided by Trans abdominal sonography(26). False - positive results are often a result of bladder distension therefore scars in apparently positive results should be repeated after emptying the bladder (26).

Trans vaginal sonography, if available, may be used to investigate placental location at any time in pregnancy when the placenta is thought to be low – lying . It is significantly more accurate than trains abdominal sonography, and its safety is well established (43-45) . Sonographers are encouraged to report the actual distance from the placental edge to the internal cervical os at TVS, using Standard terminology of millimeters away from the os or millimeters of overlap. A placental edge exactly reaching the internal os is described as 0 mm. When the placental edge reaches or overlaps the internal os on TVS between 18 and 24 weeks gestation (incidence 2-4%), a follow-up examination for placental location in the third trimester is recommended, Overlap of more than 15 mm is associated with an increased likelihood of placenta previa at term (43-45).

Although it may appear dangerous to introduce an ultrasound probe into the Vagina in suspected cases, the technique has been shown to be safe to visualize the internal cervical os in all cases using the trans vaginal technique, in contrast to only 70% using trans abdominal equipment. In studies comparing abdominal with trans vaginal imaging, found that the trans vaginal technique to be superior (26). Trans perinealsonography was reported accurate to localize placenta previa in 1992, but more recently in 2007 demonstrated its accuracy in 75 women in whom placenta previa was visualized using trans abdominal sonography(26). Magnetic Resonance Imaging (MRI), A number of investigators have used MRI to visualize placental abnormalities, including previa(26). Magnetic resonance imaging (MRI) will also accurately image the placenta and is superior to TAS (44-45) .It is unlikely that it confers any benefit over TVS for placental localization, but this has not been properly evaluated. Furthermore, MRI is not readily available in most units.

## Management of placenta previan:

Symptomatic placenta previa: Management depends on the stage of pregnancy and the amount of hemorrhage, It is preferred to allow the pregnancy to continue to a point at which the baby unlikely to encounter major complications of immaturity after delivery. From the time of diagnosis, the woman was advised to stay in hospital, blood was to be constantly available for immediate transfusion, facilities were to be available for immediate cesarean section, anemia was to be identified and corrected, if necessary by repeated transfusion., because of the likelihood of further hemorrhage. Because bleeding Occurs mainly as a result of plaque detachment from a lengthening lower uterine segment and dilating cervix, cervical cerclageperhaps meritsgreater consideration in the management of symptomatic placenta previa presenting early with APH . Another form of treatment is the use of tocolytic drugs. Beta sympathomimetic agents such as ritodrine could theoretically reduce the likelihood of bleeding by inhibiting the uterine contractions and their impact on the lower segment. Women who have been hospitalized for placentaprevia will undergo regular ultra sound examinations to see if there has been only sign of the placenta rising (29). Steroids should be given to promote lung maturity for gestations between 24 and 34 weeks. Rhesus (D) immunoglobulin should be administered to Rh-negative mothers. Management of P.P is then based on gestational age, severity of the bleeding and fetal condition and presentation (45) .
Asymptomatic placenta previa: The problem of rising placenta has been emphasized, this obviously desirable to avoid prolonged unnecessary hospitalization, it is also important to avoid major APH occurring outside the hospital. As far as management is concerned, reasonable guidelines would be to admit women with asymptomatic major placenta previa (grade III and IV) from 34 weeks gustation . Those with asymptomatic minor placenta previa can often be administered on an outpatient basis unless living far from the hospital. Women with placenta previa may be considered in one of the following categories.

The fetus is preterm and there are no other indications for delivery. The fetus is reasonably mature. Labor has ensued. Hemorrhage is so severe as to mandate delivery despite gestational age(26). For some women, prolonged hospitalization may be ideal. Howevera women is usually discharged after bleeding has ceased and her fetus judged to be healthy , the women and her familymust fully appreciate the possibility of complications and be prepared to transport her to the hospital immediately(26) .Cesarean delivery is necessary in practically all women with placenta previa (26) . It used to be said that epidural and spinal anesthesia were contraindicated, and that general anesthesia was mandatory at cesarean section for placenta previa. Because of the poorly contractile nature of the lower uterine segment, there may be uncontrollable hemorrhage following placental removal When bleeding from the placental bed cannot be controlled by conservative means, other methods can be attempted. Over sewing the implantation site with 0-chromic sutures may provide homeostasis. In some women, bilateral uterine or internal iliac artery ligation may provide hemostasis. If such conservative methods fail, and bleeding is brisk, then hysterectomy is necessary . For women whose placenta previa is implanted anteriorly in the site of a prior hysterotomy incision, there is an increased likelihood of associated placenta accreta and need for hysterectomy.

## Complications of placenta previa:

Maternal and Fetal Complications: Maternal complications includes massive life -threatening hemorrhage, mainly due to placenta aggressively adherent to the uterine wall (placenta accreta), increase incidence of caesarean delivery, and an increase risk of post partum hemorrhage . Bleeding from the placenta previa results from small disruptions in the placental attachment during normal development and thinning of the lower uterine segment during the third trimester. As a result profuse hemorrhage and shock can occur, leading to significant maternal and fetal morbidity and mortality. Perinatal mortality rate still ten times higher than in the general populations(30) . Fetal complications which includes intrauterine growth restriction due to poor placental perfusion, increase incidence of mal presentations and of congenital anomalies, preterm delivery and its complications , which is responsible for 60% of perinatal death preterm premature rupture of membrane, and vasa previa(30) .

## Aim of the study

To compare risk factors and pregnancy out come between different types of placenta previa (P. P).

## Materials and Methods

A prospective study carried out at Basra Maternity and Child Hospital and Basra General Hospital during the period from October 2010 to October 2011. A total of 103 pregnant women with singleton pregnancy and more than 24 weeks gestation admitted to the labor ward were found to have placenta previa on trans abdominal ultra sound and in whom the diagnosis was found or confirmed during caesarean section were included in the study. Ultra sound examinations were performed with bladder half full and the distance between the lower edge of the placenta and the internal os was measured. If the women have more than one ultra sound, the result of most recent ultra sound was used. The classification of the degree of placenta previa was based on an ultra sound findings. Placenta previa was classified as major when the placenta completely or partially covered the internal os , when the placenta just reaches the internal os or the margin was less than 3em above the internal os , it was classified as minor placenta previa. Also Placenta previa was classified as Grade I when the margin of the placenta was less than 3em above the internal so, Grade II when the placenta just reach the internal os , Grade IIl when the placenta partially covered the internal os and Grade IV when the placenta completely covered the internal os (34). Placenta previa accrete was diagnosed clinically when the placenta was removed piece meal during caesarean section and suturing . Demographic characteristics of women included in the study , together with details of surgical findings and procedures. The volume of blood transfusions and complications were recorded. The neonatal out come were also recorded. Statistical analysis was performed using SPSS version 15 , chi - squere test was used. P value <0.05 was considered statistically significant.

## Results

Table I present the distribution of different types PP according to the age, it shows that in PP minor [Grade 1, Il], the patients were in reproductive age group (80%) and (85.7%) respectively, the same thing was also noted in major PP[ Grade III, IV] were (86%) and (76%) were in the reproductive age group. But there was slight increase in the percentage of women above 40 and had PP Grade [IV, 17. 6%] However the difference is not statistically significant (P value = 0.851).

**Table (1) : Age Characteristic**

| Age | PI | PII | PIII | PIV |
|---|---|---|---|---|
| <20 | 1(4.5%) | 3(806%) | 1(3.4%) | 1(5.9%) |
| 20-40 | 19(86%) | 30(85.7%) | 25(86.2%) | 13(76.4%) |
| >40 years | 2(9.1%) | 2(5.7%) | 3(10.3%) | 3(17.6%) |
| Total | 22(21.3%) | 35(33.9%) | 29(28.1%) | 17(16.5%) |
| Chi sq.= 2.65 | d.f=6 | p=0.851 | | |

Table II shows the distribution of PP according to the parity , it shows that PP I. II were more common in primi gravid ( 23.8 % , 17 % ) compared to PP III . IV 3.4 % , while PP III , IV were more common in multi parous ( 68.8 % , 82.3 % ) and grand multi parous ( 27.6 % , 17.6 % ) respectively and the difference is statistically significant, P value=<0.05.

**Table (2) : Parity distribution**

| Parity | P.I | PII | PIII | PIV |
|---|---|---|---|---|
| Prim gravid | 5(23.8%) | 6(17.1%) | 1(3.4%) | Zero |
| 1-5 children | 17(77.3%) | 25(71.4%) | 20(68.8%) | 14(82.3%) |
| >5 children | Zero | 4(11.7) | 8(27.6%) | 3(17.6%) |
| Total | 22 | 35 | 29 | 17=103 |
| Chi sq.= 14.1 | d.f= 6 | p=0.028 | | |

Table III presents the distributions of PP according to the level of education, it shows that majority of the patients were either illiterate or had primary school education ( 54 % , 68.5 % , 58.6 % , 46.7 % ) respectively , compared to ( 18.8 % , 17.1 % . 20 % , zero ) for the university education level.

**Table (3): level of education**

| Level of education | PI | PII | PIII | PIV |
|---|---|---|---|---|
| Illiterates & Primary school | 12(54.5%) | 24(68.5%) | 17(58.6%) | 11(46.7%) |
| Secondary school | 6(27.3%) | 5(14.28%) | 6(20.68%) | 6(35.29%) |
| University | 4(18.18%) | 6(17.1%) | 6(20.68%) | Zero |
| Total | 22 | 35 | 29 | 17=103 |

Chi sq.=6.38 d.f=6 P=0.382

Table IV shows the relation of certain risk factors with different types of PP . It shows that majority of patients with major PP III, IV had combination risk factors 55.1 % and 41 % for grade III , IV respectively , two previous C.S also represent large percentage in major type of PP 56,1 % and 35.2 % respectively . While in minor PP previous miscarriage represent a major risk factor 31.8 % and 34.2 % for PP grade I ,II respectively and the difference is statistically significance (P value=<0.05) .

**Table (4) : Risk factors for P.P.**

| Age | PI | PII | PIII | PIV |
|---|---|---|---|---|
| Hx. & of previous one C.S | 2(9%) | 1(2.8%) | 0 | 1(5.8%) |
| >previous 2 C.S | 1(4.5%) | 1(2.8%) | 2(56.1%) | 6(35.2%) |
| Previous miscarriage | 7(31.8%) | 12(34.2%) | 6(20.6%) | 3(17.6%) |
| Previous P.P | 1(4.5%) | 2(5.7%) | 2(56.1%) | |
| Combination factors | 1(4.5%) | 5(14.2%) | 16(55.1%) | 7(41.1%) |

Chi sq.=28.7 d.f=12 p=0.004

Table V presents the obstetric out come in different types of P.P It shows that pre-term labor was more in major types of P.P ( 31% ) for P.PIII and ( 29.4% ) for P.PIV , compared with minor types of P.P where it represents only ( 4.5% ) for P.Pl and ( 20 % for P.PII . Also emergency C.S was more common in major types compared to minor type of P.P. P.P accreta was also common in major types of P.P ( 51.2 % and 88.2 % ) for P.PIII and IV compared with ( 4.5% and 8.5%) for PPI and II respectively. Hysterectomy and urinary tract injury were found only in major type of P.P ( 48.3 % , 13.8 % for P.PIII and ( 88.2% and 41.2% ) for P.PIV respectively. And lastly blood transfusion was more common in P.PIIl and IV ( 51.7% ) for P.PIII and ( 82.3% ) for P.PIV respectively . In all these obstetrics out come the difference is statistically significant P. value = <0,05 .

**Table (5) : different types of P.P**

| Variables | PI (22) | PII(35) | PIII(29) | PIV(17) |
|---|---|---|---|---|
| APH | 10(45.4%) | 26(74.3%) | 20(68.9%) | 12(70.5%) |
| Preterm delivery | 1(4.5%) | 7(20%) | 9(31%) | 5(29.4%) |
| Emergency C.S | 4(18.18%) | 5(14.3%) | 17(58.6%) | 14(82.3%) |
| Placenta Previaaccreta | 1(4.5%) | 3(8.5%) | 15(51.7%) | 15(88.2%) |
| Hysterectomy | 0 | 0 | 14(48.3%) | 15(88.2%) |
| Urinary tract injury | 0 | 0 | 4(13.8%) | 7(41.2%) |
| Blood transfusion | 2(9.1%) | 4(14.3%) | 15(51.7%) | 14(82.3%) |

Chi sq.=54.6 d.f=18 p=0.00

Table VI shows the neonatal outcome according to different types of P.P. It shows that about ( 40 % ) of neonates admitted to NCU in patients with P.PII and III . Stillbirth and neonatal death occurred in about ( 17 % ) in P.PII and IV , ( 9.09 % ) and ( 13.79 % ) in P.PI and III respectively . Birth weights of neonates born to patients with P.P were normal in majority of patients (59.09 % , 85.7 % , 82.2 % and 88.2 % ) for P.P I,II,III and IV respectively . Mean APGAR score was normal in majority of patients with P.P.

**Table (5): Neonatal outcome according to different types of P.P.**

| Variables | PI (22) | PII(35) | PIII(29) | PIV(17) |
|---|---|---|---|---|
| Admission to NCU | 2(9.09%) | 14(40%) | 11(37.9%) | 5(29.4%) |
| Still birth & neonatal death | 2(9.09%) | 6(17.14%) | 4(13.79%) | 3(17.6%) |
| Congenital anomalies | 1(4.5%) | 2(5.7%) | 4(13.79%) | 4(23.5%) |
| *Birth Wt. (2.5-4Kg) | 13(59.09%) | 26(85.7%) | 25(82.2%) | 15(88.2%) |
| APGAR SCORE Mean:1min 5min | Mean at 5,2,,SD=(1.2) 6.7,,SD=(1.7) | Mean=sum ÷ No. of cases 5.3,,SD=(1.9) 7.4,,SD=(201) | 5.4,,SD=(0.8) 7.4,,SD=(1.5) | 6.2,,SD=(2.3) 8.5,,SD=(205) |

*Exclusion – PTL
- IUD
- Congenital anomalies

## Discussion

Placenta previa complicated ( 0.4-0.5 % ) of all deliveries (35) . In the past two decades, a significantly increasing trend in the incidence of placenta previa was reported in some studies(14) . Our study demonstrates that there was no significant difference in the type of P.P in relation to age distribution, similar result were found in several studies (9) .On the other hand, a study conducted by Lea Tuzovic, et al demonstrated that women older than 30 years had more than 2.5 fold higher risk for placenta pravia development. The distribution according to different age group shows higher frequency in women older than 35 years especially major types of previa (4). Regarding parity distribution our study demonstrates that P.P was more common in multi para and grand multi para especially major type of P.P. This is in agreement with most of the studies (5). With regard to the risk factors for P.P, we found that previous miscarriage was the main associated factor for P.P, followed by previous P.P, previous two C.S previous one C.S and the difference were statistically significant.

While most studies reported that the risk of P.P increases proportionally with the number of prior caesarean deliveries (22,26-27) . our study demonstrates that the percentage of abortion was significantly higher among women with P.P. Our finding are in accordance with most studies dealing with this topics. With regard to complications and out come, our study demonstrates that preterm delivery still remain one of the main complications, similar study found the same result (36). Our study showed that was increased risk of P.P accreta, in major type of P.P compared to minor types. Several studies demonstrated the same finding (37, 38) .

Hysterectomy and urinary tract injury occurred only in major types of P.P , other studies have also reported a significantly higher incidence (41) .

In our study, there was no difference regarding the neonatal outcome in different types women with major P.P However, some studies demonstrated that babies delivered to women with major P.P showed a higher incidence of admission to the NCU (39) . Other study showed that premature babies from mother with P.P had significantly lower first and five minute APGAR SCORE (36). In conclusion, women with major P.P are of increased risk of placenta accreta a likely to require hysterectomy and to have post-operative complications than women with minor P.P. To reduce morbidity, the delivery of these women should be planned in an institution with optimum facilities and present precautions.

## Conclusion and Recommendations

It can be concluded that women with major PP are at an increased risk of ante partum bleeding, are more likely to have placentaaccreta and are more likely to require hysterectomy and to have postoperative complications than women with minor degrees of PP. To reduce morbidity, the delivery of these women should be planned in an institution with optimum facilities and with preset precautions.

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## Questionnaire

Predisponding factors & pregnancy outcome in different types of placenta previa

Low lying Marginal Partial Central
Name Age Parity Abortion history of PTL
Address Blood group HB% Medical disease
_DM
_HT
_SCa

Level of education _illiterate or primary
_ secondary
_University

Obstet .history … Curettage
.previous myomectomy
. IUCD

Present pregnancy … Bleeding in Early pregnancy
.. Bleeding in 2nd& 3rd trimester

ANC

History of previous P.P

Smoking

Outcome in this pregnancy …NVD
… C.S
… Caesarian hysterectomy

Baby body wt. sex ABGAR SCORE …..1min
….2min

Management of 3rd stage of labor ……P.P.H
……. Legation of vessels
…….. leg. Of placental bed
…….. Accreta
…… C.S hysterectomy

Urinary tract injury ……..Yes …….. No

Blood transfusion …… Yes …….. No


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