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THE PREVALENCE OF PLACENTA PREVIA IN WOMEN WITH UNSCARRED UTERUS

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Abstract

OBJECTIVE
To determine the frequency of placenta previa in unscarred uterus presenting to a tertiary care hospital.

METHODOLOGY
This descriptive cross-sectional study was conducted on pregnant women aged between 20–40 years with an unscarred uterus and a pregnancy duration of 28 weeks or more. Placenta previa was confirmed by ultrasound scans. The data was analyzed using SPSS software version 26 and $p < 0.05$ was considered statistically significant.

RESULTS
Among a cohort of 164 women possessing unscarred uteri, the incidence of placenta previa was identified in 52 instances, corresponding to a rate of 31.7%. The mean age of the participants was found to be 31.4 ± 4.8 years, while the gestational age was documented as 33.2 ± 2.5 weeks. A majority of the women impacted by this condition were classified as multigravida (67.3%), with the highest prevalence observed within the 31–35 age demographic (40.4%).

CONCLUSION

This research elucidates that placenta previa may manifest in females possessing unscarred uteri, particularly among those with multiple pregnancies and individuals of advanced maternal age. The results emphasize the necessity of recognizing placenta previa as a plausible obstetric complication independent of any prior uterine surgical interventions, thereby reinforcing the imperative for systematic antenatal evaluation and prompt diagnosis to facilitate optimal maternal and fetal outcomes.

INTRODUCTION

Placenta previa is the implantation of the placenta in the lower uterine segment, with either complete or partial coverage of the OS (obstetrics and gynaecology) [1,2]. Between 28 weeks gestation, it appears as bleeding who holds a higher risk for postpartum haemorrhage, which in itself causes higher maternal and neonatal morbidity and mortality [3] As the rate of cesarean births has increased, the rate of placenta previa also increases accounted between 0.3% to 2% of all third-trimester pregnancies [3–5]. Placenta previa is also associated with fetal effects such as intrauterine growth restriction, prematurity or fetal demise. Maternal complications include antepartum haemorrhage, maternal anaemia and shock and it requires surgical intervention which includes cesarean sections and hysterectomies [5,6]. Nevertheless, knowledge about the frequency of placenta previa in women with an unscarred uterus is paramount for targeted antenatal care and strategic planning clinical management [4-6].

The identification of placenta previa before the onset of delivery possesses significant merit, as it enables comprehensive interdisciplinary strategizing aimed at mitigating both maternal and neonatal morbidity and mortality [7]

Intact uteri with no history of operative uteri represent a unique set of pregnancies where risk factors for placenta previa may differ [8]. The overall incidence of placenta previa was 31.94% in an extensive study, in which the uteri were unscarred [8], while two other studies reported 29.27 and 32.45% rates respectively [9,10]. Placenta praevia is one of the most serious complications that can occur during pregnancy, and it has many severe adverse effects on the mother and fetus. It when raises the mortality risk of both mom and infant, restricts in baby growth and early delivery, antenatal bleeding and intrapartum bleeding. Women as well may need substantial blood transfusions [11,12].

It is important to know how often placenta previa occurs for both placentas previa in unscarred uteri for a number of reasons. First it provides insight into potentially modifiable risk factors specific to this group and therefore new information relevant to refining strategies for tailored antenatal care. Second, it adds important information to the obstetric literature that informs our counselling and management of pregnancies in a variety of contexts. Lastly, as cesarean section rates continue to increase, a better knowledge of the prevalence of placenta previa in non-scarred uteri is important to improve maternal and fetal outcomes, allowing health care providers to anticipate and manage this obstetric complication in this specific patient population. This study will provide new knowledge that will address the gaps in the existing evidence and promote clinical synthesis using real-world and evidence-based data to influence maternal-fetal outcomes for pregnancies involving unscarred uteri.

METHODOLOGY

This descriptive cross-sectional study was conducted at the Department of Obstetrics & Gynaecology, Shaikh Zayed Women's Hospital Larkana over a period of six months to estimate the frequency of placenta previa in women with unscarred uterus i.e. no prior uterine surgery like cesareans or myomectomies.

Using non-probability consecutive sampling, a total of 164 pregnant women on outpatient and emergency clinics were enrolled in the study. Inclusion criteria comprised women aged 20 to 40 years, with a gestational age of 28 weeks or more confirmed by ultrasound, and an unscarred uterus, regardless of parity or gravida. Women were excluded if they had uterine anomalies, multiple gestations, significant pre-existing medical conditions (such as severe preeclampsia or diabetes), substance abuse during pregnancy, or fetal anomalies detected on ultrasound, as these factors could affect study outcomes. After obtaining informed consent, relevant demographic and clinical data were collected, and all participants underwent ultrasound examinations to assess placenta previa, which was diagnosed when the placenta covered the internal cervical os. The assessments were conducted by the principal investigator under the supervision of a senior consultant with more than five years of experience. All data were systematically recorded on a pre-designed proforma, and effect modifiers were managed through strict application of inclusion and exclusion criteria as well as stratification. Data was analyzed using SPSS version 26; frequencies and percentages were calculated, and Chi-square test was applied with a p-value < 0.05, considered statistically significant.

RESULTS

The analysis incorporated a group of 164 subjects, characterized by a mean age of 32.05 ± 6.85 years, a body mass index (BMI) of 25.74 ± 3.56 kg/m², and a mean gestational age of 37.41 ± 3.08 weeks. A predominant proportion of the female participants (54.9%) exhibited a gravidity classification of G2–G4, followed by 37.8% within the G5–G7 category, and 7.3% demonstrating gravidity exceeding G7. The predominant proportion of the participants were multiparous (81.7%), in contrast to 18.3% who were categorized as primiparous. Concerning the rate of previous cesarean deliveries, 22.6% acknowledged having undergone one, 32.9% confirmed two, 36.6% mentioned three, and 7.9% revealed four prior cesarean operations. Concerning the classification of placenta previa, major previa was identified in 76.2% of the cases, while 23.8% exhibited minor previa. A history of preceding placenta previa was noted in 9.8% of the female participants. Furthermore, 41.5% of the subjects indicated experiencing abdominal pain, while 58.5% did not report such symptoms (Table I).

Table 1. Summary Statistics

Variable	Mean ± SD
Age (years)	32.05 ± 6.85
BMI (kg/m²)	25.74 ± 3.56
Gestational age (weeks)	37.41 ± 3.08

Among the 164 female participants incorporated into the research, 50 exhibited placenta previa, whereas 114 did not. The mean age was found to be statistically comparable between the two cohorts (32.40 ± 6.51 years vs. 31.89 ± 7.02 years; p = 0.665), as was the mean body mass index (25.45 ± 3.64 kg/m² vs. 25.87 ± 3.53 kg/m²; p = 0.483) and gestational age (37.22 ± 3.03 weeks vs. 37.50 ± 3.10 weeks; p = 0.594), revealing no statistically significant discrepancies. Gravidity displayed a tendency towards increased gravidity in women devoid of placenta previa, although this difference did not attain statistical significance (p = 0.108). Conversely, parity exhibited a significant correlation with placenta previa: 28% of women with placenta previa were classified as primiparous in contrast to 14% within the non-previa cohort (p = 0.033). The historical occurrence of previous cesarean sections revealed no statistically significant disparity between the groups (p = 0.105), albeit a greater proportion of women with placenta previa

had undergone three prior cesarean deliveries (50% vs. 30.7%). The classification of previa (major vs. minor) did not demonstrate significant variation between the cohorts (p = 0.250). The antecedent history of placenta previa and the presence of abdominal pain similarly did not show significant differences between the two groups (p = 0.225 and p = 0.142, respectively) (Table II)

Table 2. Placenta Previa Frequency

Placenta Previa	Frequency
Yes	50
No	114

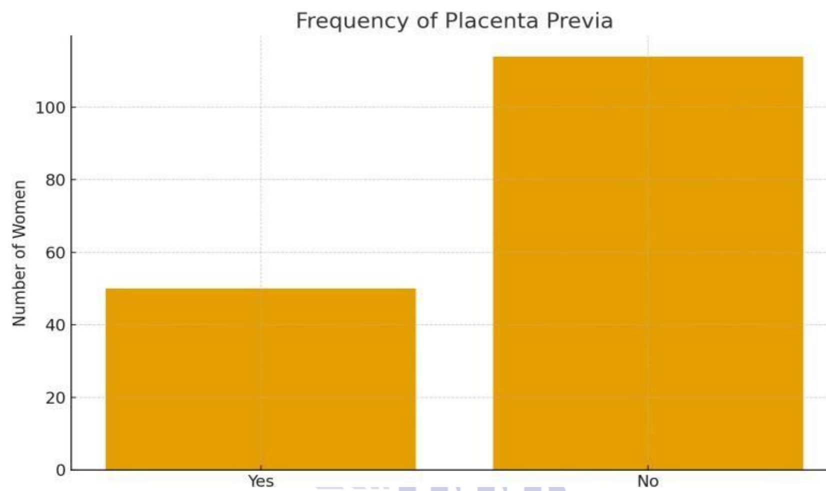

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Table 3. Gravidity Distribution

Gravidity	Percentage
G2–G4	54.9
G5–G7	37.8
>G7	7.3

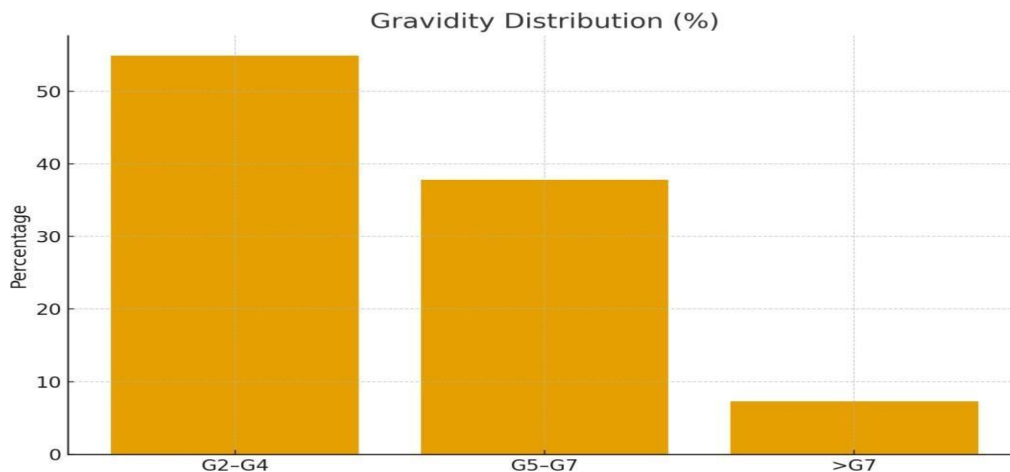


Table 4. Parity Distribution

Parity	Percentage
Multiparous	81.7
Primiparous	18.3

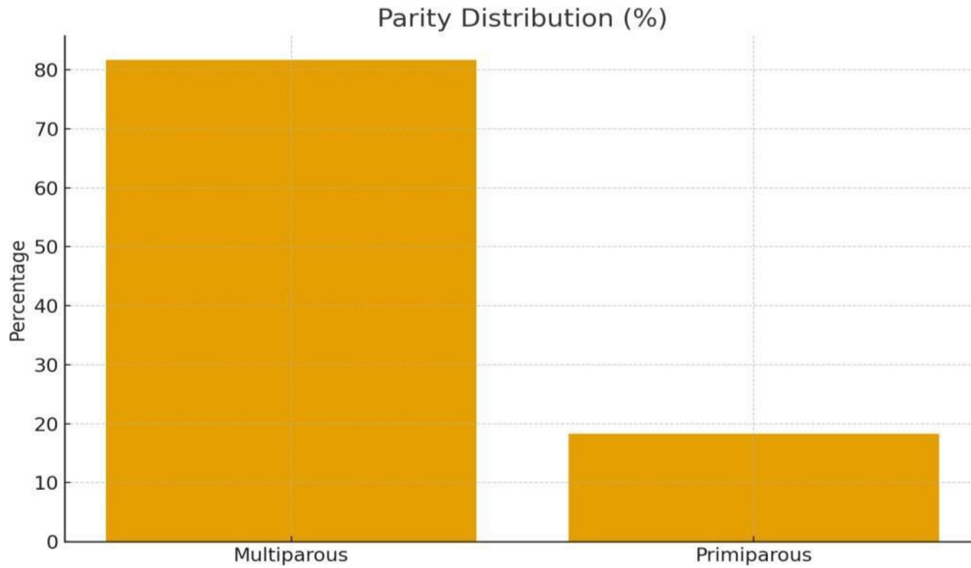
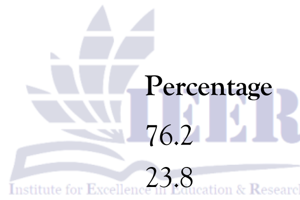
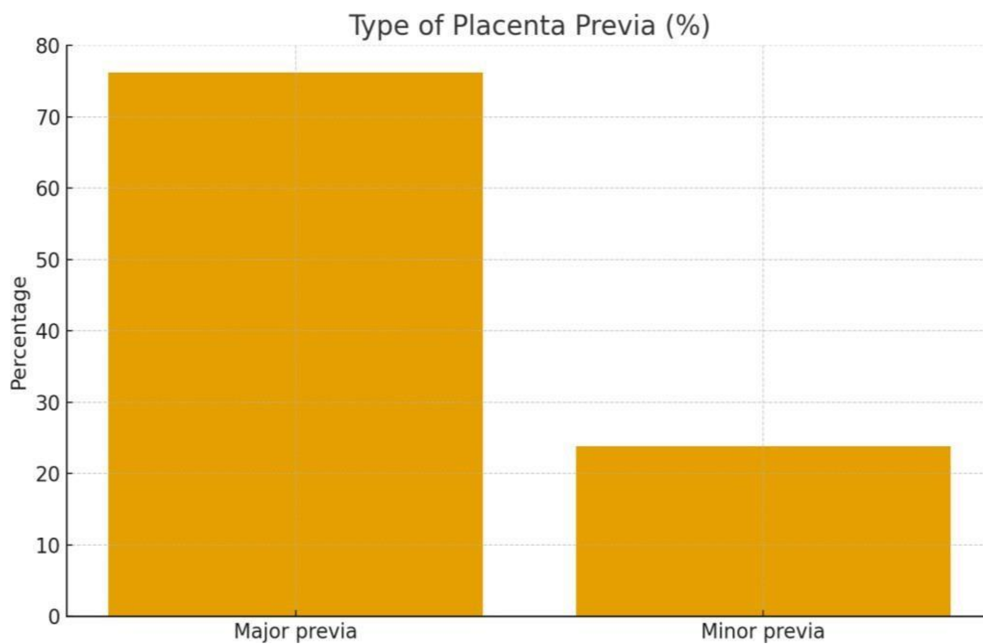


Table 5. Type of Placenta Previa



Type	Percentage
Major previa	76.2
Minor previa	23.8



DISCUSSION

In this study, we investigated the prevalence of placenta previa among women with unscarred uteri, revealing a noteworthy frequency that challenges the traditional view of uterine scarring as the dominant risk factor. Placenta previa, defined by the implantation of the placenta over or near the internal cervical os, is a major cause of third-trimester bleeding and can lead to serious maternal and fetal complications such as hemorrhage, anemia, preterm birth, and emergency cesarean delivery [14,15]. The clinical diagnosis in this study was based on ultrasound assessment at ≥28 weeks' gestation, consistent with current international recommendations, ensuring accurate identification of the condition [15]. Our findings corroborate several recent regional studies—such as Javed et al. and Taye et al.—that have identified prevalence rates ranging from 29% to over 30% in women without prior cesarean sections [8,9]. This is consistent with Uzma et al. [11], who also highlighted a measurable prevalence of placenta previa in unscarred uteri, reinforcing the need for broader risk screening even in supposedly low-risk populations.

The conventional perception that placenta previa predominantly affects women with surgical uterine scars is undergoing transformation. Faiz and Ananth [12] undertook a meta-analysis revealing that elevated parity and previous abortions, irrespective of prior uterine surgery, augment the associated risk. Similarly, Gurol-Urganci et al. [13] illustrated an increased risk even in subsequent pregnancies following cesarean sections, implying that the uterine milieu and endometrial modifications may exert influences that extend beyond mere scarring. Rosenberg et al. [14] highlighted the importance of maternal age, tobacco use, and assisted reproductive technologies as significant contributing factors, which are becoming increasingly pertinent in contemporary obstetric demographics. Recent guidelines and investigations bolster these findings: Bhide et al. and Jauniaux et al. advocate for comprehensive screening in high-risk pregnancies, encompassing cases involving advanced maternal age or in vitro fertilization conception [15,16].

Barber E et al. [17] further underscored that gestations subsequent to in vitro fertilization are associated with markedly elevated probabilities of atypical placental implantation, including previa, attributable to modified implantation dynamics. Moreover, Daskalakis et al. [18] noted that while prior cesarean deliveries increase risk, a significant proportion of placenta previa cases arise in unscarred uterine conditions, often alongside other risk factors such as multiparity and advanced maternal age. Tikkanen [19] contributed that placenta previa exhibits converging risk profiles and clinical ramifications with placental abruption, thereby accentuating the necessity for prompt identification and a multidisciplinary approach to management.

The strengths of this study include its strict eligibility criteria, uniform ultrasound-based diagnostic methodology, and focus on an often-overlooked patient subset. However, limitations include its single-center scope, the use of non-probability sampling, and absence of multivariable analysis to explore secondary risk factors in depth. Despite these limitations, the findings make a meaningful contribution to obstetric practice by highlighting that placenta previa can occur frequently even in unscarred uteri. This reinforces the need for comprehensive antenatal assessment strategies, especially in the context of evolving reproductive demographics marked by older maternal age and increased use of assisted reproductive technologies.

CONCLUSION

This research elucidates that placenta previa may manifest in females possessing

unscarred uteri, particularly among those with multiple pregnancies and individuals of advanced maternal age. The results emphasize the necessity of recognizing placenta previa as a plausible obstetric complication independent of any prior uterine surgical interventions, thereby reinforcing the imperative for systematic antenatal evaluation and prompt diagnosis to facilitate optimal maternal and fetal outcomes.

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