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Short Communication

Placenta previa: maternal and fetal outcome in a tertiary care institute

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ABSTRACT

Placenta previa (PP) is a serious health disorder, which leads to higher level of foetal-maternal morbidity and mortality. In this study, we evaluated maternal and fetal outcome due to PP in tertiary care institute. This research was a prospective and observational study. Among 8311 numbers of deliveries, 96 patients were presented PP admitted in Department of Obstetrics and Gynaecology, Shri Bhausaheb Hire Government Medical College, Dhule, Maharashtra, India. The study period was June 2021 to May 2022. All patients were informed and taken written informed consents. After the clinical assessment, the diagnosis was confirmed for PP. The parameters viz. age, parity, GA, previous delivery, PV bleeding, PP types, mode of delivery, intraoperative interventions, morbidity and mortality of mothers and neonatal outcomes were recorded. Our study found PP rate of about 1.15% and the prevalent age group was maximum 25-29 years. Maximum mothers were multigravida and GA was maximum>37 weeks recorded. 19 babies were observed early neonatal death. More the prevalence of PP lead to high resources utilization and risk of maternal and fetal morbidity and mortality. PP prevention can be achieved by better spacing in between pregnancies, antenatal registration of all pregnant women, routine check-up, routine use of USG in pregnancy and early referral of high-risk pregnant women to tertiary care centres.

Keywords: Maternal outcome, Mortality, Morbidity, Neonatal outcome, Placenta previa, Prevalence

INTRODUCTION

From past study, placenta previa (PP) is reported a serious health issue and is associated with high foetal-maternal morbidity and mortality.[1] Moreover, PP contributes to one of the cases of antepartum haemorrhage in which bleeding occurs from placental site, which is located in the lower uterine segment either partially or completely and as the lower uterine segment stretches near term or in labour the associated bleeding is unavoidable.[2-5] Several risk factors viz. age, high parity, multi-foetal gestation and smoking and cocaine use are well-known.[4] The risk of developing PP increases progressively as per increasing caesarean sections (CS) with≥3 then the chance of having previa is 37%.[4] The incidence of placenta previa is approximately 4-5 per 1000 deliveries.[2] PP invades the uterine wall becomes morbidly adherent placenta (MAP) in form of placenta accretea, increta and percreta. MAP can result in life threatening haemorrhage, disseminated intravascular coagulation and death.[6-8] PP is known to be associated with prematurity. However, there is debate about the effect of PP on foetal growth; some studies have suggested that pregnancies with PP are at risk of low birth weight and a low APGAR score.[9] In the present study, we evaluated maternal and foetal outcome due to PP in tertiary care institute.

METHODS

In the present study, total number of deliveries 8311 in which 96 pregnant mothers were presented PP who admitted in obstetrics and gynaecology department at Shri Bhausaheb Hire Government Medical College, Dhule, Maharasthra. This research was a prospective and observational study and conducted for the period of June 2021 to May 2022. All these patients were informed about

diagnosis and taken written informed consents. After the clinical assessment, the diagnosis was confirmed for PP, which included in the present study.

The parameters viz. age, parity, gestational age (GA), previous delivery, per vaginal (PV) bleeding, PP types, mode of delivery, intraoperative interventions, morbidity and mortality of mothers and neonatal outcomes were recorded.

RESULTS

Maternal outcomes

Maximum age groups of 25-29 years (45, 46.87%) followed by 30-34 years (21, 21.87%) while minimum<20 years (6, 6.25%) and≥35 years (7, 7.29%), respectively presented PP (Table 1).

For parity, maximum mothers were multigravida (54, 56.25%) followed by primigravida (32, 33.33%) while minimum grand multi (10, 10.41%), respectively presented PP (Table 2). For GA, maximum mothers were>37 weeks (46, 47.91%) followed by 32-37 weeks (45, 46.87%) while minimum 28->32 weeks (5, 5.20%), respectively presented PP (Table 3).

Maximum mothers had recorded of previous delivery of 1 CS (28, 29.16%) followed by VD (21, 21.87%) while minimum previous H/O D and E (10, 10.41%) and previous LSCS (12, 12.50%), respectively presented PP (Table 4). Maximum mothers had recorded of PV bleeding (74, 77.08%) while minimum of none (26, 27.08%) group presented PP (Table 5).

Maximum mothers had recorded of type 1 (27, 28.12%) followed by type II A (24, 25.0%) while minimum of placenta accreta group (7, 7.29%) presented PP (Table 6). Maximum mothers had recorded VD of type I (16, 16.66%) and CS of type II (19, 19.79%) presented PP (Table 7). Maximum mothers had recorded B/L uterine artery ligation type (16, 16.66%) presented PP (Table 8). Maximum mothers had required blood transfusion (67, 69.79%) presented PP.

Neonatal outcomes

For neonatal outcome, maximum was live birth (90, 93.75%) and term birth (53, 55.20%). Majority of babies (55, 57.29%) were 1.5-2.4 Kg weight. Only 39 babies (40.62%) were required NICU admission and 19 babies (19.79%) were observed early neonatal death.

Table 1: Age groups distribution among mothers.

≤20 years N (%)	20-24 years N (%)	25-29 years N (%)	30-34 years N (%)	≥35 years N (%)
6 (6.25)	17 (17.70)	45 (46.87)	21 (21.87)	7 (7.29)

Table 2: Parity distribution among mothers.

Primigravida N (%)	Multigravida N (%)	Grand multi N (%)
32 (33.33)	54 (56.25)	10 (10.41)

Table 3: Gestational Age distribution among mothers.

28 to <32 weeks N (%)	32 to 37 weeks N (%)	>37 weeks N (%)
5 (5.20)	45(46.87)	46 (47.91)

Table 4: H/O previous delivery distribution among mothers.

Previous 1 caesarean Section N (%)	Previous 2 LSCS N (%)	Previous H/O D and E N (%)	Previous vaginal delivery N (%)
28 (29.16)	12 (12.5)	10 (10.41)	21 (21.87)

Table 5: Presenting with C/O PV bleeding distribution.

Yes N (%)	No N (%)
74 (77.08)	26 (27.08)

Table 6: Types of PP distributions.

Type 1 N (%)	Type II A N (%)	Type IIB N (%)	Type III N (%)	Type IV N (%)	Placenta accreta N (%)
27 (28.12)	24 (25)	15 (15.62)	16 (16.66)	14 (14.58)	07 (7.29)

Table 7: Mode of delivery distribution among mothers.

	Vaginal N (%)	C/S N (%)
Type I	16 (16.66)	11 (11.45)
Type II	05 (5.20)	19 (19.79)
Type IIB	-	15 (15.62)
Type III	-	16 (16.66)
Type IV	-	14 (14.58)

Table 8: Additional intraoperative Interventions.

B/L Uterine artery Legation N (%)	B/L Internal Iliac artery legation N (%)	B/L Internal Ilialing+caesarean hysterectomy N (%)	Caesarean hysterectomy N (%)	C Hysterectomy+bladder repair N (%)
16 (16.66)	07 (7.29)	05 (5.20)	09 (9.37)	02 (2.08)

Table 9: Maternal morbidity and mortality.

No of cases required blood transfusion N (%)	Post partum haemorrhage N (%)	Shock N (%)	ICU admission N (%)	Maternal mortality N (%)
67 (69.79)	23 (23.95)	08 (8.33)	17 (17.70)	02 (2.08)

Table 10: Neonatal outcome.

Live birth N (%)	Still birth N (%)	Preterm birth N (%)	Term birth N (%)
90 (93.75)	06 (6.25)	43 (44.79)	53 (55.20)
Birth weight			
≤1.5 Kg N (%)	1.5-2.4 Kg N (%)	2.5-3.4 Kg N (%)	≥3.4 Kg N (%)
4 (4.16)	55 (57.29)	37 (38.54)	0 (0.0)
APGAR score≤7@5min N (%)	**NICU admission N (%)**	**Early neo natal death N (%)**	**APGAR score≤7@5min N (%)**
27 (28.12)	39 (40.62)	19 (19.79)	27 (28.12)

DISCUSSION

Several studies reported that maternal and fetal morbidity and mortality from PP are considerable, which are related to high demands on health care resources.[1,2,4,5] The occurrence rates of PP among singleton pregnancies of women were 0.73%, 1.00%, 1.10%, 1.50%, 2.80% and 1.24% in Saudi Arabia, Greece, Australia, Korea, USA, and China, respectively.[10-15] While in West Bengal, India of about 1.03%.[16] Our study found PP rate of about 1.15%, which very similar to recent study done by Khatun et al and earlier studies in Australia and Greece while comparatively lower rate from Korea, USA and China.[11-16]

CONCLUSION

More the prevalence of PP lead to high resources utilization and risk of maternal and fetal morbidity and mortality. PP prevention can be achieved by better spacing in between pregnancies, antenatal registration of all pregnant women, routine check-up, routine use of USG in pregnancy and early referral of high risk pregnant women to tertiary care centres. In present study, the outcome as 19.37% neonatal death and term birth 55.20% were observed. The future study is suggested with higher sample size and multicentric approach.

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REFERENCES

1. Mehboob R, Ahmed N. Maternal and fetal outcome in placenta previa. Pakistan J Med Res. 2003;42(1):102-5.
2. Faiz AS, Anath CV. Etiology and risk factors for placenta previa: an overview and meta-analysis of bservational studies. J Matern Fetal Neonatal Med. 2003;13:175-90.
3. Wu S, Kocherginsky M, Hibbard J. Abnormal placentation: twenty-year analysis. Am J Obstet Gynecol. 2005;192:1458-61.
4. Prasanth S, Mehta P, Rajeshwari KS. Maternal and fetal outcome of placenta previa in a tertiary care

institute: a prospective two year study. Indian J Obst and Gynecol Res. 2016;3(3):274-8.
5. Madhavi J, Usha Rani V. Placenta previa: Maternal and foetal outcome in a tertiary care hospital of Telangana state. JMSCR. 2019;07(01):531-5.
6. Balaya J, Bondarenko HD. Placenta accreta and the risk of adverse maternal and neonatal outcomes. J Perinat Med. 2013;41(2):141-9.
7. Farquhar CM, Li Z, Lensen S, McLintock C, Pollock, W, Peek, MJ, et al. Incidence, risk factors and perinatal outcomes for placenta accreta in Australia and New Zealand: A case-control study. BMJ Open. 2017;7(10):67.
8. Wasim T, Bushra N, Riaz S, Iqbal HI. Fetomaternal outcome in patients with placenta previa. Pak J Med Sci. 2020;5:36.
9. Ananth CV, Smulian JC, Vintzileos AM. The effect of placenta previa on neonatal mortality: a population-based study in the United States, 1989 through 1997. Am J Obstet Gynecol. 2003;188(5):1299-304.
10. Bahar A, Abusham A, Eskandar M, Sobande A, Alsunaidi M. Risk factors and pregnancy outcome in different types of placenta previa. J Obstet Gynaecol Can. 2009;31(2):126-31.
11. Daskalakis G, Simou M, Zacharakis D, Detorakis S, Akrivos N, Papantoniou N, et al. Impact of placenta previa on obstetric outcome. Int J Gynaecol Obstet. 2011;114(3):238-41.
12. McCormack RA, Doherty DA, Magann EF, Hutchinson M, Newnham JP. Antepartum bleeding of unknown origin in the second half of pregnancy and pregnancy outcomes. BJOG Int J Obstet Gynaecol. 2008;115(11):1451-7.
13. Jang DG, We JS, Shin JU, Choi YJ, Ko HS, Park IY, et al. Maternal Outcomes According to Placental Position in Placental Previa. Int J Med Sci. 2011;8(5):439-44.
14. Eichelberger KY, Haeri S, Kessler DC, Swartz A, Herring A, Wolfe HM. Placenta previa in the second trimester: sonographic and clinical factors associated with its resolution. Am J Perinatol. 2011;28(9):735-9.
15. Fan D, Wu S, Wang W, Xin L, Tian G, Liu L, Feng J, Guo X, Liu Z. Prevalence of placenta previa among deliveries in Mainland China: A PRISMA-compliant systematic review and meta-analysis. Medicine (Baltimore). 2016;95(40):5107.

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