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Research Article

Clinical features and course of pregnancy in placenta praevia

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ABSTRACT

Background: India being a developing country, with majority of its population in rural areas, lack in basic medical care and transportation. With a high rate of illiteracy, early marriages and high prevalence of anaemia, it is important to counsel, diagnose, refer and manage a case of placenta praevia at a higher centre

Methods: All patients who came with history of painless bleeding per vagina after 28 weeks of gestation were hospitalized. A thorough history of vaginal bleeding (warning haemorrhage) was taken. Cases with confirmed diagnosis of placenta praevia on ultrasonography were included in the study.

Results: Out of 84 cases, 70 cases (83.33%) underwent C/S of which 69 (82.14%) cases were emergency C/S and 1 (1.19%) case underwent elective C/S. 2 (2.38%) cases underwent emergency laparotomy for rupture uterus along with placenta praevia. 12 (14.29%) cases delivered vaginally, of which 9 (10.72%) delivered spontaneously and 3 (3.57%) cases were accelerated.

Conclusions: In our study, majority of cases (76.19percent) occurred in the age group of 21-30years, which is lower than the mean maternal age reported in other studies. It is possible that an earlier age of marriage and conception in our community have influenced this finding.

Keywords: Placenta praevia, Warning haemorrhage, Pregnancy outcome

INTRODUCTION

In Obstetric practice, haemorrhage is a life threatening emergency. APH complicates 6 percent of pregnancies. In placenta praevia, placenta is situated partly or wholly in lower segment. Bleeding occurs from the placental site when the lower uterine segment stretches, which can be fatal to both the mother and the foetus.¹ Although placenta praevia is relatively uncommon (0.3 to 0.9% incidence), it is regarded as one of the leading causes of uterine bleeding during the later stages of pregnancy and has been recognized as an important determinant of maternal morbidity and adverse perinatal outcomes; pregnancies complicated by placenta praevia have resulted in excessively high rates of preterm delivery, low birth weight, still births, neonatal and perinatal deaths. The etiology of placenta praevia largely remains obscure and speculative. In spite of the advent of USG to diagnose this disorder and the ability to assess the fetal lung

maturity, to appropriately time the delivery, efforts to improve perinatal outcomes in cases of placenta praevia continues to pose a challenge.²

In 1927, the concept of liberal use of Blood Transfusion and caesarean section to reduce the maternal trauma and haemorrhage was explained. Though maternal mortality decreased significantly, perinatal mortality remained high, because of immediate termination of pregnancy.³

In 1945, 'The Expectant Therapy' was explained to prolong the duration of pregnancy, increase maturity of the fetus and prevent maternal haemorrhage. This was followed by liberal caesarean section. This concept decreased MMR from 6-7 percent to 0.57 percent, PNMR decreased from > 50 percent to 23.5 percent. In further series MMR was 0 and PNMR decreased to <10 percent.⁴

In last few decades, though the MMR and PNMR has decreased, placenta praevia is still one of the leading causes of third trimester bleeding and results in serious neonatal, fetal and maternal morbidity.⁴ Much of this is preventable with proper antenatal supervision and institutional care.⁴

India being a developing country, with majority of its population in rural areas, lack in basic medical care and transportation. With a high rate of illiteracy, early marriages and high prevalence of anaemia, it is important to counsel, diagnose, refer and manage a case of placenta praevia at a higher centre.

METHODS

The study was conducted at Head Quarters Hospital, 2 year study. During this study period 8633 cases were delivered. Among these 84 cases were identified as having placenta praevia.

All patients who came with history of painless bleeding per vagina after 28 weeks of gestation were hospitalized. A thorough history of vaginal bleeding (warning haemorrhage) was taken. Cases with confirmed diagnosis of placenta praevia on ultrasonography were included in the study. If patients had come in emergency without USG, diagnosis of placenta praevia was confirmed by per vaginal examination or examination of the placenta after the delivery, were included in the study. Cases which presented below 28 weeks of gestation, with confirmed diagnosis of abruptio placenta or local lesions of vagina and cervix or patients in preterm labour without confirmed placenta praevia were excluded from the study.

Those cases who came with history of painless bleeding per vagina or warning haemorrhage after 28 weeks of gestation were admitted in the hospital. USG was done, if found to be placenta praevia, with live premature fetus, haemodynamically stable, with no or minimal bleeding and not in established labour were managed expectantly with tocolytics, antibiotics, steroids and bed rest. Anaemia was defined as haemoglobin < 10gm% or haematocrit < 30%. If found to be anaemic, depending on the degree of anaemia, correction was done with either blood transfusion or parenteral iron therapy. This expectant management was continued till term or maturity of fetus and later taken for elective C/S. If patient develops severe bout of bleeding then emergency C/S was done irrespective of the maturity. Occasionally if patient is in established labour, with minimal bleed, good general condition and minor degree of placenta praevia, vaginal delivery was allowed.

If the patient is admitted in emergency with severe painless bleeding per vaginum without any previous USG, and is in shock, resuscitative measures were carried out in the form of IV fluids, blood transfusion and antibiotics. Vaginal examination was done in a “double

set up” condition, if turns out as placenta praevia, then emergency C/S were done. Placenta was examined to confirm the diagnosis whether delivered vaginally or by C/S.

RESULTS

Table 1: Incidence of placenta praevia in relation to age.

| Age in years | Number of cases | Percentage |
|--------------|-----------------|------------|
| 16-20 | 12 | 14.29 |
| 21-25 | 41 | 48.81 |
| 26-30 | 23 | 27.38 |
| 31-35 | 7 | 8.33 |
| 36-40 | 1 | 1.19 |
| Total | 84 | 100 |

In our study maximum (64) cases 76.19% occurred between 21-30years, followed by 12% in 16-20years. 7 (8.33%) occurred between 31-35years. 1 case was aged >36years (Table 1).

Table 2: Distribution of placenta praevia on admission status.

| Age in years | Number of cases | Percentage |
|--------------|-----------------|------------|
| 16-20 | 12 | 14.29 |
| 21-25 | 41 | 48.81 |
| 26-30 | 23 | 27.38 |
| 31-35 | 7 | 8.33 |
| 36-40 | 1 | 1.19 |
| Total | 84 | 100 |

Table 2 shows that the majority of cases 46 (54.77%) were unbooked and most of them were admitted as emergency admissions. 13 (15.47%) were referred from peripheral hospitals. Though 25 cases were booked, most of them had ANCs at unspecialised professionals.

Out of 84 cases, 71 (84.52%) were from rural areas. Most of these cases were unbooked and were admitted as emergency admissions. Both maternal morbidity and neonatal mortality were observed to be more in these cases.

This picture can be improved by giving good antenatal check-up and health education to these patients at their door steps by trained health care professionals. Anaemia has to be corrected during the antenatal period. Availability of specialised professionals at the level of PHCs can probably improve the situation.

Table 3 shows the maximum number of cases 43 (51.19%) were in multigravidae, 19 (22.62%) were in Primigravidae and 22 (26.19%) of them were Grandmultigravidae.

Table 3: The incidence of placenta praevia in relation to parity.

| Parity | No. of cases | Percentage |
|--------------|--------------|------------|
| Primigravida | 19 | 22.62 |
| 2-3 | 43 | 51.19 |
| ≥4 | 22 | 26.19 |
| Total | 84 | 100 |

Table 4: Duration of bleeding per vaginum at the time of admission.

| Duration in hours | No. of cases | Percentage |
|-------------------|--------------|------------|
| 1-3 | 25 | 29.76 |
| 3.1-6 | 33 | 39.29 |
| 6.1-10 | 13 | 15.48 |
| > 10 | 3 | 3.57 |
| Absent | 10 | 11.90 |
| Total | 84 | 100 |

Table 4 shows history of bleeding PV at the time of admission was seen in 74 cases (88.10%). Of these 68 (80.1%) cases reported within 6hours. There was no history of bleeding PV in 10 cases (11.90%) (Warning haemorrhage was not considered).

Among those, 16 (19.04%) admitted after 6hours, 7 patients were in shock all of whom were revived. 2 cases had PPH, 1 delivered vaginally and 15 of them delivered by emergency LSCS.

Table 5: Warning haemorrhage in placenta praevia.

| No. of episodes | No. of cases | Percentage |
|-----------------|--------------|------------|
| 1 | 29 | 34.52 |
| 2 | 29 | 34.52 |
| 3 | 4 | 4.76 |
| 4 | 2 | 2.39 |
| 5 | 1 | 1.19 |
| Absent | 19 | 22.62 |
| Total | 84 | 100 |

Table 5 shows 65 (77.38%) were admitted to the hospital with history of warning haemorrhage. Of these 29 each (34.52%) had 1 and 2 episodes of bleeding. 4 cases (4.76%) had 3 episodes of bleeding. 2 cases (2.39%) had 4 episodes of bleeding and 1 case (1.19%) had 5 episodes of bleeding. In 19 cases (22.62%) warning haemorrhage was absent.

The timing and quantity of bleeding was different in different patients, at different gestational age due to individual variation and the type of placenta praevia. Hence any history of bleeding PV should be thoroughly investigated, to diagnose and manage a case of placenta praevia for a better maternal and foetal outcome.

In a study warning haemorrhage was found in 85% cases (60) compared to 77.38% in our study.

Table 6: Association of pain abdomen.

| Pain abdomen | No. of cases | Percentage |
|--------------|--------------|------------|
| Absent | 70 | 83.33 |
| Present | 14 | 16.67 |
| Total | 84 | 100 |

Table 6 shows that majority of cases, i.e. 70 (83.33%) did not complain of pain abdomen and the remaining 14 (16.67%) complained of pain abdomen.

In placenta praevia pain abdomen is usually absent unless the patient is in labour.

In our study 14 cases had pain abdomen out of which 12 were in labour and 2 had abruptio placenta along with placenta praevia.

Table 7: Mode of delivery.

| Mode of delivery | No. of cases | Percentage |
|---|--------------|------------|
| Emergency C/S | 69 | 82.14 |
| Elective C/S | 1 | 1.19 |
| Spontaneous vaginal delivery | 9 | 10.72 |
| Syntocinon + ARM accelerated vaginal delivery | 3 | 3.57 |
| Emergency laparotomy | 2 | 2.38 |
| Total | 84 | 100 |

Table 8: Maternal Morbidity in placenta praevia.

| Morbidity | Number of cases | Percentage |
|------------------|-----------------|------------|
| Puerperal sepsis | 0 | 0 |
| PPH | 18 | 21.43 |
| RTI | 3 | 3.57 |
| Wound gaping | 2 | 2.38 |
| Renal failure | 2 | 2.38 |
| Total | 25 | 29.76 |

Table 7 shows that out of 84 cases, 70 cases (83.33%) underwent C/S of which 69 (82.14%) cases were emergency C/S and 1 (1.19%) case underwent elective C/S. 2 (2.38%) cases underwent emergency laparotomy for rupture uterus along with placenta praevia. 12 (14.29%) cases delivered vaginally, of which 9 (10.72%) delivered spontaneously and 3 (3.57%) cases were accelerated.

There were 4 (4.76%) cases who underwent subtotal hysterectomies. Out of these, 2 (2.38%) cases were of

rupture uterus, 1 (1.19%) case was for placenta increta and 1 (1.19%) case for couvleire uterus.

Table 8 shows that a total of 25 cases had maternal morbidity. The most important was PPH seen in 18 (21.43%) cases, most of which were controlled by bimanual compression, injection prostodin and injection methergin and placental bed suturing. Incidence of PPH varies from 3% to 10% in different studies, compared to which incidence is high in our study.

2 (2.38%) cases went into acute renal failure of which 1 was due to transfusion reaction on 3rd post-operative day, was shifted to medical unit for further o management, the other patient recovered from ARF.

3 cases had developed pneumonia post operatively, were treated with antibiotics. All the three recovered.

2 cases had gaping of wound. 1 patient had omental herniation on 2nd post-operative day, relaparotomy was done and resuturing was done. The other patient had jaundice, gaping of wound for which tension sutures were applied on 10th postoperative day. Again on 20th post-operative day patient developed burst abdomen with bed sores and was referred to surgical unit for further management.

Most of the complications in placenta praevia is due to anaemia, which has to be treated aggressively with blood transfusions.

Increasing age is an independent risk factor.

Table 9 shows age related incidence of placenta praevia in various studies. Studies by Handler, Tariq, Hemmadi and Rani showed maximum incidence between 21-30years, which is well comparable to the findings in our study.

According to a study, increasing parity is an independent risk factor for placenta praevia.

DISCUSSION

Table 9: Comparative study of age related incidence in placenta praevia.

| Authors | Age group |
|------------------------------|-----------|
| Macafee ⁵ | 25-30 |
| Das B. ⁶ | 29.6 |
| Handler ⁷ | 20-29 |
| Tariq Khashoggi ⁸ | 21-30 |
| Hemmadi ⁹ | 20-29 |
| Rani P.R ¹⁰ | 20-29 |
| Present Study | 21-25 |

Table 10: Comparative study of parity in placenta praevia.

| Author | Brenner ¹¹ | Handler ⁷ | Tariq ⁸ | Rani P.R ¹⁰ | Present study |
|-----------|-----------------------|----------------------|--------------------|------------------------|---------------|
| Incidence | 82.7% | 86% | 76% | 69% | 51.19% |
| Parity | Multi | ≥ 2 | 1-4 | Multi | 2-3 |

As shown in the Table 9, different studies have found maximum incidence of placenta praevia in multigravidae. In our study, 77.38% of the cases were seen in multigravidae which is well comparable with the findings by Tariq.

Table 11: Comparative study of C/S rates.

| Das ⁶ | Rao B ¹² | Rani PR ¹⁰ | Present study |
|------------------|---------------------|-----------------------|---------------|
| 68.2% | 82.8% | 64% | 70.09% |

With profound increase in C/S rates there has been improvement in perinatal and maternal outcome. The

C/S rates in this study are well compared with C/S rates in Das series and Rani's study.

Table 12: Comparative study of vaginal deliveries.

| Macafee ⁵ | Rao B ¹² | Hemmadi ⁹ | Rani PR ¹⁰ | Present study |
|----------------------|---------------------|----------------------|-----------------------|---------------|
| 18 percent | 12.4 percent | 8.4 percent | 36 percent | 14.29 percent |

Among 84 cases 12 (14.29%) were delivered vaginally as they were in labour, of which 9 (10.72%) cases delivered spontaneously and 3 (3.57%) cases delivered by ARM and syntocinon acceleration.

According to Macafee the progress is worse for the child when ARM is performed.

CONCLUSION

Majority of the cases (83.33percent) underwent C/S, 2 cases underwent emergency laparotomy with subtotal hysterectomy for rupture uteri. In 1 case of couveileire uterus and 1case of placenta increta, subtotal hysterectomy was done. Only 12 cases delivered vaginally. Most of the patients came late to the hospital and hence were managed actively.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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