An evaluation of abnormal puerperium

Aarti Jeenwal*, Hemlata Jhabrabe, Nishita Singh

Department of Obstetrics and Gynecology, M. G. M. Medical College and M. Y. Hospital, Indore, Madhya Pradesh, India

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*Correspondence:
Dr. Aarti Jeenwal,
E-mail: rtjinwal252@gmail.com

ABSTRACT

Background: Puerperium is strictly defined as the period of confinement during and just after birth. It is the period following childbirth during which body tissues specially the genital organ reverts back approximately to the pre-pregnant state both anatomically and physiologically. At some stages some of these well-orchestrated changes can go away resulting in complications which can endanger life.

Methods: Retrospective c study was conducted in Department of Obstetrics and Gynecology of M.G.M. Medical College and M. Y. Hospitals, Indore. The cases were selected randomly from the patient who were admitted in M.Y. Hospital who had either a vaginal or caesarean delivery (both in our institution as well as outside institution) during the study period, irrespective of age, parity and registration status. Data was recorded in pre-designed coded case report forms and statistical analysis was performed.

Results: Authors found that puerperal pyrexia was the most common complication, accounting for 38.96% of total cases. The second most common complication was perineal pain affecting 28.15% of cases. The other complication was wound gaping/discharge (11.71%), mastitis and breast abscess (6.81%), secondary postpartum hemorrhage (5.33%), episiotomy gaping and infection (4%), perineal hematoma (0.59%), wound dehiscence (0.3%) and other rare causes accounted for 4.15% of the complication.

Conclusions: Puerperal period is as important as antenatal period. Anaemia, suboptimal personal hygiene as well as improper sterilization can resulted in severe health hazards such as septicemia, disseminated intravascular coagulation as well as death. So, risk factor should be treated vigorously.

Keywords: Infection, Perineal pain, Puerperal pyrexia, Wound gaping

INTRODUCTION

Puerperium is strictly defined as the period of confinement during and just after birth. It is the period following childbirth during which body tissues specially the genital organ reverts back approximately to the pre-pregnant state both anatomically and physiologically. Duration of puerperium is divided into immediate up to 24 hours, early up to 7 days and late up to 6 weeks. Uterine changes just after childbirth the uterus measures around 1000 grams. The anterior and posterior walls lie in close approximation each measuring 4 to 5cm in thickness. Two days after delivery uterus begins to shrink and within 2 weeks it descends to the true pelvis. 1st week later it weighs about 500 grams at the end of 2nd week about 300 grams and thereafter 100 grams. It regains its nonpregnant size about 4 weeks after delivery. Cervix the cervical opening contracts slowly and for a few days readily admits 2 fingers. Lochia early in the puerperium, sloughing of decidua results in a vaginal discharge of variable quantity called lochia. Lochia persists for up to 4 weeks and may stop or resume up to 8 weeks.
Vagina the smooth walled passage gradually diminishes in size but rarely returns to nulliparous dimensions. At some stages some of these well-orchestrated changes can go away resulting in complications which can endanger life.

Some of them are: puerperal pyrexia, puerperal sepsis, subinvolution, urinary complication, breast complication: mastitis, galactocele, breast abscess, sore nipple, puerperal venous thrombosis, obstetric palsies, puerperal emergencies, psychiatric disorder occurrence by being vigilant, early ambulation and to treat them as early after detection using antibiotics, physiotherapy, other drugs, support etc. The puerperal sepsis/pyrexia presents commonly with fever and other symptoms like pelvic pain, foul smelling vaginal discharge and delayed reduction of the uterine size. World literature search revealed a Nigerian study report that puerperal sepsis is a second leading cause of death accounting for 26.3% of maternal deaths, while another WHO report estimated 358,000 maternal deaths yearly occurring due to child birth problems and out of these up to 15% are associated with puerperal sepsis.2,3

METHODS

The present study was carried out in the department of Obstetrics and Gynecology, M.G.M. Medical college and M.Y. hospital Indore. It is a retrospective randomized study. The study period from 1 September 13 to March 2014

Selection of cases

The cases were selected randomly from the patient who were admitted in M.Y. Hospital who had either a vaginal or caesarean delivery (both in our institution as well as outside institution) during the study period, irrespective of age, parity and registration status. On a specially designed proforma, the patient’s particulars, detailed obstetric history, examination and laboratory finding were recorded. Total of 4955 deliveries took place in the study period and among them 675 puerperal complication occurred.

Inclusion criteria

• Only institutional deliveries were included
• Cases were taken irrespective of registration status.

Essential criteria

• Patient delivered in or outside MYH <6 weeks postpartum.

The complication included in the study were: Puerperal pyrexia, pain, breast abscess and mastitis, episiotomy infection and gaping, caesarean wound infection and gaping, wound dehiscence and burst abdomen secondary PPH. Other rare complication-puerperal psychosis, pelvic abscess, peritonitis, inversion was included. In each case urine albumin, Hb, blood sugar was done routinely. Other specific investigation like vaginal swab culture, urine and blood culture, USG abdomen and pelvis, pus culture etc. were done where indicated.

RESULTS

In present study, maximum incidence of puerperal complication occurred in nulliparous women (16.25%) and those who belongs to lower socioeconomic status. It indicates that nulliparity and poor hygiene is a risk factor for puerperal complication to developed (Table 1).

Table 1: Distribution of cases according to parity wise and socioeconomic status.

| Sociodemographic characteristic | Number of cases (n=675) | Percentage |
|---------------------------------|-------------------------|------------|
| Parity                          |                         |            |
| P0                              | 388                     | 16.25%     |
| P1                              | 212                     | 13.37%     |
| P2                              | 61                      | 8.10%      |
| P3                              | 12                      | 6.69%      |
| P4                              | 2                       | 3.33%      |
| Religion                        |                         |            |
| Hindu                           | 392                     | 58.1%      |
| Muslim                          | 283                     | 41.9%      |
| Socioeconomic status            |                         |            |
| Class I                         | 18                      | 6.73%      |
| Class II                        | 36                      | 7.48%      |
| Class III                       | 74                      | 10.69%     |
| Class IV                        | 204                     | 13.60%     |
| Class V                         | 343                     | 17.03%     |
| Geographic area                 |                         |            |
| Rural                           | 446                     | 66.07%     |
| Urban                           | 229                     | 33.93%     |

In this study, authors found that the incidence of puerperal complication in our hospital was 13.63%. The incidence of puerperal complication was significantly higher (22.41%) in caesarean section group as compared to vaginal deliveries (11.36%) (Table 2).

Table 2: Incidence of puerperal complication during the study period.

| Complication                  | No. | Incidence |
|-------------------------------|-----|-----------|
| Total deliveries              | 4955| 13.63%    |
| Vaginal deliveries            | 3935| 11.36%    |
| Caesarean deliveries          | 1020| 22.41%    |
| Total mortality of complication| 07  | 1.04%     |
| Vaginal delivery              | 04  | -         |
| Caesarean delivery            | 03  |           |

In this study, of patient who presented with puerperal complication, 14 patient succumbed to ill-effects, giving an incidence maternal morality following puerperal complication to be 1.04%. (Table 1). In present study,
authors found that puerperal pyrexia was the most common complication, accounting for 38.96% of total cases. The second most common complication was perineal pain affecting 28.15% of cases. The other complication was wound gaping/discharge (11.71%), mastitis and breast abscess (6.81%), secondary postpartum hemorrhage (5.33%), episiotomy gaping and infection (4%), perineal hematoma (0.59%), wound dehiscence (0.3%) and other rare causes accounted for 4.15% of the complication (Table 3).

Table 3: Distribution of types of puerperal complication (n=675).

| Puerperal complication          | Number of cases | Percentage |
|---------------------------------|-----------------|------------|
| Puerperal pyrexia               | 263             | 38.96      |
| Perineal pain                   | 190             | 28.15      |
| Wound gaping                    | 79              | 11.71      |
| Mastitis                        | 46              | 6.81       |
| Secondary PPH                   | 36              | 5.33       |
| Miscellaneous                   | 28              | 4.15       |
| Episiotomy gaping and infection | 27              | 4          |
| Perineal hematoma               | 4               | 0.59       |
| Wound dehiscence                | 2               | 0.3        |

From Table 4, it is clear that the only 12.49% of non-anaemic patients had puerperal complication compared to 20.72% of mildly anaemic, 23.34% of moderately anaemic, and 22.73% of severely anaemic patients.

Table 4: Association of complication with the degree of anaemia.

| Haemoglobin status | No. of patients | No. of cases | Percentage |
|--------------------|-----------------|--------------|------------|
| 7-8 (Moderate anaemic) | 287             | 67           | 23.34      |
| < 7 (Severe)       | 66              | 15           | 22.73      |
| 8-10 (Mild)        | 222             | 46           | 20.72      |
| >10 (Non-anaemic)  | 4380            | 547          | 12.49      |

In caesarean cases, puerperal pyrexia was the most common complication accounting for 42.67% of cases, followed by wound gaping and infection 34.57%, mastitis and breast abscess 12.04%, secondary postpartum haemorrhage 5.25%, wound dehiscence 0.88% and other rare causes accounted for 4.6% of the cases (Table 4). In present study, authors found that the incidence of puerperal complication was significantly higher in unbooked (14.78%) than in booked cases (10.71%) and more in referred cases (70.59%) than in non-referred (8.87%).

Table 6 indicates that maximum number of complication (74.45%) occurred in the first 3 postnatal days, indicating for more vigilant management of patient during the early postnatal days. In present study authors also found that 61.22% cases of puerperal pyrexia were associated with meconium stained amniotic fluid indicating that MSL is a high-risk factor for puerperal pyrexia.

Table 6: Distribution according to postnatal day at which complication were evident.

| Post-natal day | Number of cases | Percentage |
|----------------|-----------------|------------|
| Day 1          | 138             | 20.37      |
| Day 2          | 173             | 25.52      |
| Day 3          | 244             | 36.95      |
| Day 4          | 27              | 4.14       |
| Day 5 or more  | 31              | 4.69       |
| Total          | 675             | 100.00     |
In present study, maximum number of cases were managed medically 88.74%.

DISCUSSION

Severe puerperal sepsis is a known source of severe maternal morbidity and mortality in developing nations like India. Prophylactic antibiotics during operation reduces endometritis by 66-75% and also reduces rate of wound infection. The infection control measures requires proper education, improvements of guidelines and various technologies and introduction of new clinical guidelines. In present study incidence of complication in cases of vaginal deliveries was 11.35% and that in cases with caesarean deliveries was 22.44%. this show that there are more complication following surgical delivery. Burrow et al, in 2004 reported that route of delivery is the single most important factor for development of uterine infection. Yokoe et al, found 0.8% incidence of endometritis after caesarean deliveries and 0.2% after vaginal deliveries. Puelperal pertyxia was most common complication followed by pain. According to Brig and associates reported the result from pregnancy mortality surveillance system, which contained 3201 maternal death in United States from 1991 to 1997, infection made up 13% of pregnancy related death. Along with pre-clampsia and obstetrics hemorrhage puerperal infection formed the lethal causes of maternal death in 20th century. This explains that puerperal infection (pyrexia) must be most common complication. The incidence of wound gaping and discharge was 11.70% which is concordance with Owen and Andrews 1994 and Chaim associates 2004, they found incidence of abdominal incisional infection following caesarean section ranges from 3-15 % with an average of about 6%. According to Andrews and colleagues in 2003 , with prophylactic antimicrobials the incidence is less than 2%. Incidence of wound dehiscence was 0.26% which is concordance with Mc Neeley and colleagues. Authors found incidence of perineal hematoma to be 0.59%. Cunningham et al found incidence of puerperal hematoma varies from 0.66% to 0.01%. Table show that in vaginal delivered cases, perineal pain was the most common followed by pertyxia. But according to a study in Nigeria the commonest complication following vaginal delivery was fever, perineal pain and abdominal pain. Puelperal complication is more common in unbooked case which show that good antenatal care is necessary for a healthy outcome.

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