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Early Puerperal Complications Following Caesarean Section Excluding First 24 Hours

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Abstract

The puerperium or postpartum period generally lasts 6 weeks & is the period of adjustment after delivery when the anatomic & physiologic changes of pregnancy are reversed & the body returns to the normal approximately non pregnant state. Though it is a time of great importance for both mother and her baby, yet this aspect of maternity care has received less attention than pregnancy and delivery. A prospective study was conducted in Uttara Adhunik Medical College Hospital taking 300 patients in early puerperium excluding first 24 hours who underwent caesarean section. Most of the study patients belonged to 21-30 years of age, were parous, coming from low socio-economic condition having no or irregular antenatal checkup. In this study the incidence of early puerperal morbidities have been found to be high (40%), majority (55%) of cases belonged in 21-30 years of age, were parous (90%), coming from low socio-economic condition having no or irregular antenatal checkup (95%). Early puerperal morbidities like wound infection (50%), endomyometritis (45%) and UTI (35%) were observed more frequently among patients with the obstructed labour (40%), prolonged labour (30%), prolonged ruptured membrane (20%) and chorioamnionitis (10%). Many patients had more than one morbidities. Primary prevention for the most part should occur during labour and delivery or even earlier (pre pregnancy and antenatal care). Many of the complications cannot be predicted accurately or prevented. Hospital delivery for high risk pregnancy, supervision of each labour by skilled personnel, judicious use of oxytocin or prostaglandin or other uterine stimulant can prevent a considerable proportion of postpartum morbidities and mortalities. Use of partograph can prevent prolonged labour, obstructed labour that are associated with an increased risk of haemorrhage, sepsis, death and long term morbidities to those who survive. It is surprising that postpartum care has received so little attention compared with antenatal and intra partum care. The long term sequelae of early puerperal infections morbidities should not be neglected as this may interfere the quality of a woman by infertility, ectopic pregnancy, chronic pelvic pain, dyspareunia etc. We believe that safe motherhood programmed should not neglect this crucial period.

Keywords: Early Puerperal, Complications, Caesarean Section

Introduction

The puerperium or postpartum period generally lasts 6 weeks & is the period of adjustment after delivery when the anatomic & physiologic changes of pregnancy are reversed & the body returns to the normal approximately non pregnant state^[1]. Though it is a time of great importance for both mother and her baby, yet this aspect of maternity care has received less attention than pregnancy and delivery. When a healthy pregnant woman with no obstetric or medical risk factors goes into spontaneous labor, she should anticipate a normal delivery. But still 5, 80,000 women in the world die from pregnancy and child birth each year and maternal mortality in developing countries is 100 times higher than the developed countries^[2]. The postpartum period has been divided into the immediate puerperium, the early puerperium & the remote puerperium. First week postpartum is the early puerperium^[1]. Puerperal infectious morbidity affects 2-8% of pregnant women & are among the most prominent puerperal complications & is more common in those of low socio-economic status, those who have undergone operative delivery, those with repeated vaginal examination.^[3] Only 16% mothers of our country gets skilled birth attendance during their delivery like doctors, paramedics & trained traditional birth attendants (TBA). 91.6% delivery occurs at home, of which 80% birth is assisted by relatives and untrained TBAs.^[4] In our country due to illiteracy, ignorance, early marriage, lack of antenatal care, failure to seek family planning

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advice due to social taboos shyness & poverty, number of emergency caesarean sections more common than elective caesarean section. Most of the abnormalities of puerperium are related either to operation or to the indications for which the operation is done, so complications are more following emergency sections rather elective procedure. There may be disorders of lactation, secondary PPH, thrombophlebitis & thromboembolism, postpartum neuropsychiatric complications, thyroiditis & postpartum respiratory & cardiac problems [3]. The patients undergoing emergency caesarean section for obstructed labour can develop septicemia, renal failure & genitourinary fistulas the number of which is quite high in our setup. Caesarean section is the most commonly performed operation in obstetric practice. The term denotes the delivery of fetus, placenta & membranes through an incision in the abdominal and uterine walls [5]. Caesarean section is of 2 types- elective & emergency, according to whether the procedure has been performed after the start of labor or not [3]. This study evaluates the prevalence of early puerperal complications by reviewing the puerperal cases in early post-partum period (first 7 postpartum days except first 24 hours). The study also focuses the specific type of early postpartum complications and the risk factors associated with complications of early puerperium.

Methodology

This study was conducted in Obs. & Gynae Dept. of Uttara Adhunic Medical College Hospital, Uttara, Dhaka to evaluate the early puerperal complications in caesarean deliveries excluding first 24 hours. The study was conducted over a period of 6 months (March 2011 to August 2011) and 300 patients who underwent caesarean section for a variety of reasons were selected. Many patients come in this institution particular with complication. A large number of specialists, doctors, nurse, anesthesiologist, neonatologist and other staffs are working round the clock to manage any type of obstetric patients. Many patients come in these institutions for operative delivery particularly cesarean section. Cesarean section is done whenever there are definite indications. After cesarean section the patients stay in the postoperative ward for some time and then transferred to postnatal ward.

Inclusion Criteria

- All parturient both primigravida and multigravida who delivered by caesarean section were included for this study (It is important to mention that only maternal complications were included in this study).
- Complication developing within 7 days excluding first 24 hours, were included.

Exclusion Criteria

- Patients with known medical diseases.
- Patients who delivered outside the hospital.
- Patients who did not agree to give consent.

After collection of all information Three hundred patients were selected for this study according to including and excluding criteria and a written consent was taken from the

patient. Then diagnosis was confirmed by detailed history taking with special attention to risk factors developing puerperal morbidity for example duration of labour, duration of ruptured membrane, prophylactic antibiotic, trial at home. In patients having fever and foul smelling discharge, high vaginal swab was taken for culture and sensitivity. Urine for culture sensitivity was done in all cases to exclude UTI. Cracked nipple, breast engorgement, mastitis, thrombophlebitis were looked for. Swab for culture and sensitivity was done for patients having wound infections. All relevant information's were noted in a pre-designed clinical data sheet and the observations were completed. Data were processed and analyzed using software SPSS 12 (Statistical package for social sciences). Finally the results have been shown in different tables and figures.

Results

Table 1: Prevalence of early puerperal Morbidities (n=60)

Total number of Patient	Early puerperal morbidities	%
300	60	20

Table 2: Demographic characteristics of the patients (n=60)

Age group (Years)	No of Patients	%
≤20	18	30
21-30	33	55
>30	9	15
Parity(Number)		
1-3	54	90
4-6	6	10
Socio-Economic status		
Poor	42	70
Lower Middle Class	12	20
Middle Class	6	10
antenatal care		
Regular	3	5
Irregular	15	25
No care	42	70
Occupation		
House wife	54	90
Service Holder	6	10

Table 3: Types of post caesarean early puerperal morbidities (n=60)

Morbidities	No of patients	%
Wound infection	30	50
Urinary Tract Infection	21	35
Endomyometritis	27	45
Mastitis	3	5
Puerperal Blue	3	5
Obstetric Palsy	2	3.3

Many Patients had more than one complication.

Table 4: Risk factors for early puerperal morbidities following caesarean section (n=60)

Risk group	No of patients	%
Obstructed labour	24	40
Prolonged labour	18	30
Prolonged ruptured membrane	12	20
Chorioamnionitis	6	10

Table 5: Relationship of early puerperal morbidities with age (n=60)

Early puerperal morbidities	Age≤20 % (n=18)	%	Age 21-30 (n=33)	%	Age>30 (n=9)	%
Wound infection	12	66.6	15	45.5	3	33.3
Urinary tract infection	6	33.3	9	27.2	6	66.6
Endomyometritis	6	33.3	18	55.5	3	33.3
Mastitis	3	16.6	0	0	0	0
Puerperal Blue	2	11.1	1	3.03	0	0
Obstetric palsy	1	5.5	0	0	1	11.1

Table 6: Relationship of early puerperal morbidities with socio-economic condition (n=60)

Early puerperal morbidities	Poor n = 42	%	Lower middle n =12	%	Middle n=6	%
Wound infection	24	57.1	6	50	0	
Urinary tract infection	15	35.5	3	25	3	50
Endomyometritis	18	42.8	6	50	3	50
Mastitis	0		1	8.3	2	33.3
Puerperal Blue	1	2.4	0		2	33.3
Obstetric palsy	1	2.4	1	8.3	0	0

Table 7: Relationship of early puerperal morbidities with risk factors (n=60)

Early puerperal morbidities	Obstructed labour n=24	%	Prolonged labour n = 18	%	Prolonged rupture membrane n=12	%	Chorio-amnionitis n=6	%
Wound infection	15	62.5	9	50	6	50	0	0
Urinary Tract Infection	9	37.5	6	33.3	3	25	3	50
Endomyo Mastitis	12	50	6	33.3	6	50	3	50
Metritis	3	12.5	0	0	0	0	0	0
Puerperal blue	0	0	0	0	3	25	0	0
Obstructe palsy	2	8.3	0	0	0	0	0	0

Discussion

The study was conducted over a period of 6 months (March 2011 to August 2011) and 300 patients who underwent caesarean section for a variety of reasons were selected. The patients having complications were evaluated thoroughly to find out the risk factors. Uttara Adhunic Medical College Hospital is the hospital where facilities for emergency caesarean section are going on round the clock and many patients come here for treatment particularly with complications. So the incidences of complications in this hospital are likely to be high. In this study, the prevalence of early puerperal morbidities encountered in patients who underwent caesarean section and it was found by 20%. In a study by Akhter T (in DMCH & SSMC & Mitford Hospital) during March 2004 To August 2004 the incidence has been shown to be 22% [6]. This is quite high in comparison to the studies of developed countries where the incidence has been found to 5.5% in one study [7]. Analyzing the age incidence it was revealed that 55% of cases were in the age group 21-30 years who developed early puerperal morbidities. This finding is consistent with other finding [6] In this study many patients belonged to Para 1-3, coming from low socio-economic status being house wife having no or irregular antenatal care. This observation is almost consistent with the finding of Rowshan A who has worked on patients of early puerperium in Mymensingh Medical College, Gynae unit I & II (from September 1999 to February 2000). Table is showing the common types of post caesarean early puerperal morbidities. The most common complication was wound infection. It must be stressed that many patients had more than one complication, for example the patients who had wound infection, had concomitant endomyometritis or UTI. The common morbidities that were observed were wound infection (50%) endomyometritis (45%) and urinary tract infection (35%). Mastitis was present in 3 patients

(5%), 2 patients (3.3%) developed obstetric palsy who presented late with obstructed labour. Puerperal blue was observed in 3 patients (5%) who were primipara. In the present study, the incidence of wound infection and endomyometritis are quite high in comparison to many studies of developed world where the incidence of infectious morbidities varies between 2-8% [3] and is very common in those of low socio-economic status, those who have undergone operative delivery, those with premature rupture of the membranes, those with prolong labour and those with multiple pelvic examination [3] Table is showing that 40% morbidities were due to obstructed labour, 30% due to prolonged labour, 20% due to prolonged ruptured membrane and 10% due to chorioamnionitis. In this study, the risk factors have been tried to be identified, which is showing that early puerperal morbidities in post caesarean patients are common among those who belonged to 21-30 years. Table is showing Para 1-3 coming from low socio-economic condition. This observation is almost similar to many other studies [3, 6, 8, 9, 10, 11, 12]. Early puerperal morbidities with risk group of patients following caesarean section. Wound infection was observed in 15 patients out of 24 patients with obstructed labour i.e., 62.5%, 6 patients out of 12 patients with prolonged ruptured membrane i.e., 50% and 9 patients out of 18 patients with prolonged labour i.e., 50%. Endomyometritis was observed in 3 patients out of 6 patients with chorio- amnionitis i.e., 50%, 12 patients out of 24 patients with obstructed labour i.e., 50%, 6 patients out of 12 patients with prolong ruptured membrane i.e 50% and 6 patient out of 18 patient with prolong labour i.e., 33.3%. Urinary tract infection was observed in 3 patients out of 6 patients with chorioamnionitis i.e., 50%, 9 patients out of 24 patients with obstructed labour i.e., 37.5%, 6 patients out of 18 patients with prolonged labour i.e., 33.3%, 3 patients out of 12 patients with prolonged ruptured membrane i.e., 25%.

Early puerperal morbidities like wound infection, endomyometritis, UTI are observed more frequently among patients with the obstructed labour, chorioamnionitis, prolonged ruptured membrane and prolonged labour. UTI is a common puerperal infection as catheterization is almost always done during caesarean section. Urine examination was done as routine for all puerperal patients and culture sensitivity was done in selected patients. Gerber B et al has shown that UTI was significantly more frequent in women subjected to catheterization (54.5%) compared to non-catheterization (24.4%),^[13] they have recommended suprapubic puncture to improve diagnostic accuracy. Sewartz MA has tried to identify the risk factors for urinary tract infection in the post-partum period where caesarean section has been detected to a contributing factor for acquiring urinary tract infection,^[14] other factors were preeclampsia, eclampsia, renal diseases, unmarried status and black ethnicity. The incidence of puerperal mastitis was low (only 3 in 60 patients) which may be due to the fact that our patients are well motivated & culturally adapted about breast feeding. More over baby friendly initiative has been taken and implemented in this hospital. There was no case of breast abscess, the incidence has been found to be (2.9%) in first 7 weeks post-partum in a western study by Kaufmann R^[15]. There were only 2 cases that experienced obstetric palsy, In this case they had history of long trial at home and trial of instrumental delivery by forceps was failed. In our series, there was no case of VVF which is more common in the developing world. There was no case of thromboembolism which is a common occurrence in the developed world. In studies conducted in this country; no case of thromboembolism has been recorded. There were 3 cases, of puerperal blue that were primipara and had difficult labour. The patients improved within a few days similar finding was observed Akhter T.^[6]

Limitations of the study

- Various maternal parameters had to be monitored clinically due to absence of required sophisticated investigations.
- Many patients had no antenatal checkup. Of those who had it, few had any written records. As such verbal statement had to be recorded this may not fulfill the ideal criteria.
- As this is a small study conducted over a period of only 6 months, it may not reflect the real picture of the whole country. A large scale study needs to be conducted to reach to a definitive conclusion.

Conclusion

Many of the complications cannot be predicted accurately or prevented. Hospital delivery for high risk pregnancy, supervision of each labour by skilled personnel, judicious use of oxytocin or prostaglandin or other uterine stimulant can prevent a considerable proportion of post-partum morbidities and mortalities. Use of partograph can prevent prolonged labour, obstructed labour that are associated with an increased risk of haemorrhage, sepsis, death and long term morbidities to those who survive. It is surprising that postpartum care has received so little attention compared with antenatal and intrapartum care. The long term sequelae of early puerperal infections morbidities should not be neglected as this may interfere the quality of a woman by infertility, ectopic pregnancy, chronic pelvic pain,

dyspareunia etc. We believe that safe motherhood programmed should not neglect this crucial period.

Recommendations

- Much more research should be carried out to identify the real picture of early puerperal morbidities following caesarean section.
- Health education BCC (behavior change communication) and intensifications of primary health care along with improved quality of EOC (Emergency obstetric Care) services including proper referral system should be enriched to reduce the risk factors for developing early puerperal morbidities.
- Skilled birth attendant (SBA) should be ensured for home delivery having adequate knowledge of aseptic measures to avoid complicated labour.
- Routine use of partograph should be ensured.
- Catheterization should be avoided as far as possible.

Prophylactic use of antibiotic should be practiced routinely in the developing countries like Bangladesh to reduce the incidence and severity of puerperal sepsis and other infectious morbidities.

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