MEDICAL CHANNEL

Original Article

INCIDENCE CAUSES AND OUTCOME OF OBSTRUCTED LABOR IN SHEIKH ZAID WOMEN HOSPITAL LARKANA- A TERTIARY CARE HOSPITAL

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ABSTRACT:

Introduction: Each year, 210 million women become pregnant, of whom 350,000-500,000 die from complications during pregnancy or childbirth and 99 percent of them are from developing countries. Obstructed labour is not only one of the five leading causes of maternal death but also an important source of short and long term maternal morbidities (like Rectovaginal fistula, Vesicovaginal fistula), stillbirth or neonatal death due to asphyxia.

Material and Method : Prospective, observational, 06 months (1st November 2011 to 30th April 2012) study conducted at obstetric department of Sheikh Zaid Women Hospital (SZWH) Larkana -A community based teaching hospital.

Inclusion Criteria: all patients with obstructed labor in the period under review, with age ranging from 14-40 years, who consented for inclusion in the study.

Exclusion criteria: patients with preterm labor, APH, preterm Eclampsia or any other medical disorder were excluded

Data was collected on printed performa after written, informed consent and included demography of patients, age at marriage , parity, antenatal care received or not, educational status, socioeconomic class, history regarding duration of labor, mode of delivery and maternal and fetal outcome, and data analyzed in standard fashion using SPSS version 17.

Results: A total of 100 patients who met the inclusion criteria were included in the study. The age of these patients ranged between 15 to 40 years, and majority of them were in their twenties. Parity ranged from 0-13, and 36 out of 100 were grand multipara. 50% patients were from rural areas, only 10% had received antenatal care at least once. The mean duration of labour was 40 hours, the most common cause of Obstructed labor was CPD as (60% patients), followed by malpresentation with malposition. Malpresentation alone (11%). 87 patients undergoing abdominal deliveries, 80 had lower segment caesarean section, 4 had repair of ruptured uterus, and 3 had Subtotal hysterectomy. 12 cases undergoing forceps deliveries, and one Ventouse. 95 % cases had serious maternal complications, Maternal sepsis being most common (30 cases), followed by PPH (20 cases). wound sepsis, burst abdomen and risk of fistula formation. One patient expired due to severe PPH. APGAR score was poor in 98% neonates, and 50 of these died either during the process of labour or within first 7 days of life.

Conclusion: OL is an important cause of maternal and fetal morbidity and mortality.

Key Words: Incidence, cases, out come, obstructed Labour.

INTRODUCTION

Each year, 210 million women become pregnant, of whom 350,000-500,000 die from

complications during pregnancy or childbirth and 99 percent of them are from developing countries.[1,2,3] Majority of these maternal deaths are due to haemorrhage, sepsis, unsafe abortion, obstructed labour, and hypertensive disorders of pregnancy. Obstructed labour is not only one of the five leading causes of maternal death, but also an important source of short and long term maternal morbidities (like Rectovaginal fistula, Vesicovaginal fistula), stillbirth or neonatal death due to asphyxia [2, 4]

According to WHO-Global Burden of Disease 2000 [5] "the Labour is considered obstructed when the presenting part of the fetus cannot progress into the birth canal, despite strong uterine contractions" and is evident by failure of the cervix to dilate or failure of the presenting part to descend through the birth canal. OL may arise from maternal or fetal condition or both, such as deformity of the uterus or vagina, large foetus, malposition or malpresentation, congenital abnormalities 4 which can and should be detected during pregnancy, so that early effective treatment can be initiated to prevent its grave consequences.

Therefore to understand the dimensions, significance and impact of OL in our population, with this study we aim to describe important epidemiological associations of obstructed labour, to determine factors leading to it, and to chart out serious sequelae that may follow particularly with or without timely or delayed clinical intervention.

Objective:

1. To describe important epidemiological associations of obstructed labour,
2. To determine factors leading to it
3. To chart out its outcome.

MATERIAL AND METHODS:

A descriptive study of six months was carried out at Obstetric Department of Sheikh Zaid Women Hospital (SZWH) Larkana. All patients admitted with Obstructed Labor from 1st November 2011 to 30th April 2012 were included in the study after a written informed consent, while patients with preterm labor, APH, preterm Eclampsia or any other medical disorder were excluded. All information regarding demography of patients, age at marriage , parity, antenatal care received or not, educational status, socioeconomic class, history regarding duration of labor, mode of delivery and maternal and fetal outcome were recorded on a printed Proforma and data analyzed in standard fashion using SPSS version 17.

RESULTS:

In the period under review, a total of 100 patients who met the inclusion criteria were included in the study. The age of these patients ranged between 15 to 40 years, and majority of them were in their twenties. Parity ranged from 0-13, and 36 out of 100 were grand multipara. The demographic data is depicted in table 1.

Half of these patients were from rural areas and only 10% had received antenatal care at least once, and only 10% were educated to primary level.

The mean duration of labour was 40 hours. Causes of obstructed labour by parity are shown in table 2. CPD was identified as the most common cause, found in 60% patients, followed by malpresentation with malposition in 37 % patients. Malpresentation alone was found in 11% patients, i.e. breach in 6%, shoulder in 2% and brow in 3%. 26 cases of OL were caused by malposition

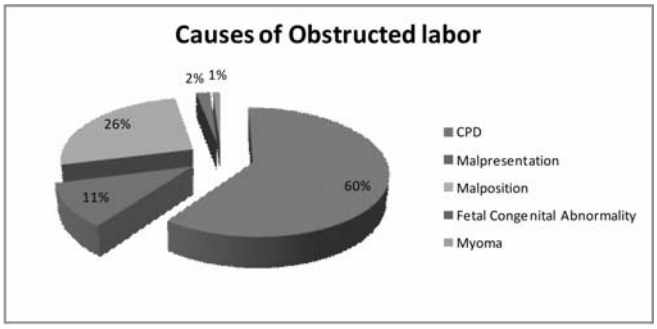


TABLE 1:
Demography of patients (n=100)

Characteristics	Percentage of Patients
Maternal Age	
Under 20	10
20-29	41
30-39	43
Above 40	06
Parity	
Primiparous	45
Parity 1-4	19
More than 5	36
Antenatal care	
Received	20
Not received	80
Educational status	
Uneducated	90
Primary education	10

TABLE 2:
management of patients with obstructed labor

Abdominal deliveries	
lower segment caesarean section	80
Repair of Uterus	03
Subtotal Hysterectomy	03
Total Abdominal Hysterectomy	1
Vaginal deliveries	
forceps deliveries	12
Ventouse	01

TABLE 3:
Maternal and fetal complications of Obstructed Labor

Complications	Number of patients
Maternal complications	
Maternal sepsis	30
Slough formation at anterior vaginal wall	30
Postpartum haemorrhage	20
Perineal tear	10
Ruptured uterus	07
Ruptured bladder	07
Subtotal Hysterectomy	03
Total Abdominal Hysterectomy	03
Maternal death	01
Foetal complications	
Foetal asphyxia	95
Foetal birth injury	05
Still birth	28
Neonatal death within 7 days	22

alone, 8 % were mentoposterior, 8 were persistent occipitoposterior and 10 were deep transverse arrest. Fetal congenital anomaly accounted for 2 cases of OL.

87 patients undergoing abdominal deliveries, 80 had lower segment caesarean section, while in 7 cases uterus found to be ruptured, and was repaired in 4 cases, and in one of these cases uterus had to be removed after being repaired because of severe postpartum haemorrhage, while Subtotal hysterectomy was done in 3 cases due to ruptured uterus.

In 12 cases forceps delivery and in one case Ventouse delivery was performed. No attempt of craniotomy or any other destructive procedures was made as destructive operations are discouraged at our centre to avoid maternal injuries.

Table 3 shows the maternal complications associated with obstructed labour. About 95 % cases had serious maternal complications. Maternal sepsis was the most common complication found in 30 cases, followed by PPH in 20 cases. Hospital stay was prolonged in most of the patients due to wound sepsis, burst abdomen and risk of fistula formation. Urinary catheter was retained for 3 weeks in all susceptible cases, to prevent fistula formation. One of the patient expired due to severe PPH. American Paediatrics Gross Assessment Record (APGAR) score was poor in 98% neonates, and 50 of those died either during the process of labour or within first 7 days of life.

DISCUSSION

Each year 500,000 women die from causes relate related to pregnancy and for every woman who dies, approximately 20 more are seriously injured or disabled, 5 OL being one of the leading cause of both maternal morbidity and mortality, particularly in developing countries like Pakistan. The epidemiological studies of obstructed labor demonstrate varying estimates in the incidence of obstructed labor throughout world, it has been reported to range between 2-8 % of all hospital admissions globally,[6] or a WHO [4] estimates obstructed labor in around 4.6% of live births, giving a total number of cases over 6 million. The figures are highest in developing countries where early childhood marriage due to social, cultural or religious reasons, grand multiparity due to early marriages, maternal malnutrition due to poverty, and lack of availability and access to health care facility, and delivery by an untrained midwife/Dai are associated and more prevalent problems.

Consistent with the UNFPA world population report [7] i.e. 1 in 4 girls in the world becomes mother before the age of 19 years, 10% of our patients were teenagers, and all of them were primigravida. Teenage pregnancies are associated with higher rates of anemia, pregnancy induced hypertension, preterm labor, and obstetric complications like OL due to unengagment of fetal head and cephalopelvic disproportions [8, 9]. CPD was found as cause of OL in 60% of our patients and almost all of our teenage mothers. Furthermore an intergenerational cycle of ill health and growth failure is a common finding in most of these mothers, i.e. an intergeneration cycle of under nutrition in child hood results in small body size and contracted pelvis in adulthood, leading to cephalopelvic disproportion the most frequent cause of OL.

In this study Grandmultiparity accounted for 30% of our cases and majority of these grandmultiparous were in their thirties. The incidence is higher than other reports from Pakistan 26% [10] and alarmingly higher then reports from other developing countries like Nigeria 7.6%, [11] and Sudan 10.4%.[12.] Classically Fetal malpresentation, dysfunctional labor, abruptio placenta, placenta previa, postpartum hemorrhage, ruptured uterus, anemia gestational diabetes, hypertension, pre-eclampsia and macrosomic infants etc have been associated with grandmultiparity, and many of these complications have also been associated independently with advanced maternal age. [13, 14.] In this study, fetal malpresentation, PPH, and uterine rupture were more common in grandmultiparas. Whether Grandmultiparous or primiparous, women in our society not only face obstetric problems and their grave consequences but are also subjected to social prejudice, and neglect of health due to poverty, they have limited access to health care facilities and are brought to hospitals late-as a last resort- when all other measures fail . This is quite evident from the fact that 50% of patients were from rural areas, 90% were uneducated and 80% of our patients did not received any antenatal care. This is higher than reports from Nigeria[11,] and Sudan[, 12] in which 64%, and 21.5% patients respectively were unbooked.

OL when neglected is a major cause of both maternal and neonatal morbidity and mortality.[4] Only surgical intervention either caesarean section or instrumental delivery by forceps, or vacuum extraction can alleviate it and if timely intervention is not carried out at a proper health care facility, it can cost loss of life of mother or child or both. In our study 80% undergoing Lower Segment Caesarean Section, 12 forceps and only one was delivered by ventouse, no destructive procedure lie symphisiotomy was carried out, this is in accordance to reports from Sudan [12,] 95% LSCS, and 5% forceps, but higher than Nigeria[11] 31% LSCS, and other centres from Pakistan[10] 21.6%.

In communities like ours with limited access to obstetric care, the mothers with prolonged/obstructed labor encounter dehydration, infection, ketosis, and exhaustion, and may die of consequent sepsis or shock due to haemorrhage from uterine rupture. In current study the most common maternal

complications were sepsis (30%), and PPH (20%), sepsis was more common in primigravida due to early and prolonged rupture of membranes while uterine rupture was found only in mutiparous, due to gradual uterine atony found in parous women this is quite similar to other reports [6, 10, 13-17] the most debilitating long term complication of OL is fistula formation with bladder and/or rectum. These women are not only faced with medical problems, worsening health condition due to malnutrition and poverty, but are also subjected to unendurable social and psychological sufferings, they are often excluded from religious activities, divorced or separated from families, or treated as outcasts.[3] In current study, majority of patients were at risk of fistula formation, so Foleys catheter was retained in them for 3 weeks at minimum, to prevent patients from its subsequent medical and psycho-social costs.

Regarding neonates, the neglected obstructed labor causes asphyxia leading to stillbirth, brain damage or neonatal death, as in current study almost all neonates had fetal asphyxia, of which 28% were still birth, and 22% died within first week of life, giving perinatal mortality of 22%, and higher in multiparous, as in other reports from Pakistan [17] stating it to be 23% in Grandmultiparous, and higher than Ethiopia 12.5%, [18] and India 16% [16] The maternal mortality in our study is 1%, while 9.1% in Ethiopia [18,] and 0% in India [16].

CONCLUSION

To conclude OL is an important cause of maternal and fetal morbidity and mortality, and requires to be addressed adequately and on a large scale, with proper health education of society particularly rural areas, regarding nutrition of young girls and mothers, and medical complications of early childhood marriages, benefits of seeking timely medical help, and provision of better health care facilities to provide, antenatal, intrapartum, and postnatal care.

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