FETAL OUTCOME IN EMERGENCY CAESARIAN SECTION

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ABSTRACT

Background: Caesarean section is a procedure in which delivery of the fetus is carried out through a surgical incision on the abdomen and uterus of the mother. It is said to be a life-saving both for mother and fetus during pregnancy and labor.

Objectives: To determine the Fetal Outcome in Emergency Caesarean Section.

Methods: A retrospective descriptive study was conducted in Obstetrics and Gynecology department, of Al-Aleem Medical College attached with Gulab Devi Educational Complex Lahore from 1st March 2020 to Feb 2021. All emergency caesarean sections during above mentioned period were enrolled in the study. Information's regarding Mother Age, Gravida Parity, booking status, Socio-economic status, Mode of onset of labor and Fetal outcome as Apgar score, fetal maturity, Birth weight and Nursery admission were gathered by entering all information in the predesigned Performa.

Results: There were 635 deliveries during the said time, SVD were 380 (60%) and caesarean section were 255 (40%). The rate of ECS was 54.90% (140 women), whereas elective CS was 45.09% (115 women). The prevalence of ECS was 22% (140 of 635 deliveries). Nursery admission rate was 27.85% percent due to different indication, majority of them 89.74% discharged and unfortunately 10.25% expired due to prematurity, sepsis and birth asphyxia.

Conclusion: Fetal distress was the commonest cause of Emergency Caesarean Sections and resulted high perinatal morbidity and mortality.

Key Words: Emergency Caesarean Section, Fetal outcome

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INTRODUCTION

Worldwide Caesarean Section rates had increased markedly over the last 30 years, a new development in obstetric practice[1]. In the United States Caesarean Section (CS) rates enhanced from 5% to 31.9%[2], though many efforts were tried to decrease the rate of CS as recommended by WHO to 10% -15% but in vain[3]. Various studies from developed and underdeveloped countries reported CS rates 25% to 30% of total deliveries.[4, 5]. Emergency CS is said to be a life-saving surgical procedure both for maternal and fetal outcome[6]. In Pakistan, significant increase number of emergency CS are reported as compare to elective CS[7] and especially in Primigravida women (27.29%)[8]. According to latest data record (1990-2014) from the 150 countries reported the average Caesarean section rates from 3.5% in sub-Saharan to 40.5% in the Latin America & the Caribbean, wide variations may be present at the regional, national and sub-national level[9]. There are certain clinical and non-clinical factors associated with wide variations in CS rates[10, 11]. Emergency caesarean sections are associated with adverse neonatal outcome than elective CS as reported by various researchers[12, 13]. The purpose of this study

was to find out fetal out come in EC and factors responsible for adverse fetal outcome could be identified and addressed properly in future to get better fetal outcome at Al-Aleem Medical College attached with Gulab Devi Educational Complex.

METHODS

A retrospective descriptive study was conducted in Obstetrics and Gynecology department, of Al-Aleem Medical College attached with Gulab Devi Educational Complex Lahore from 1st March 2020 to Feb 2021. All emergency caesarean sections during above mentioned period were enrolled in the study. Information's regarding Mother Age, Gravida Parity, booking status, Duration of pregnancy, Socio-economic status, Mode of onset of labor and Fetal outcome as Apgar score, fetal maturity, Birth weight and Nursery admission were gathered by entering all information in the predesigned Performa. All the data were entered, rechecked by an expert one for confirmation of correct entry and then analyzed using SPSS version 12. Descriptive Statistics was used to check the frequency and percentage of all quantitative variables.

RESULTS

There were 635 deliveries during the said time, SVD were 380 (60%) and caesarean section were 255 (40%). The rate of ECS was 54.90% (140 women), whereas elective CS was 45.09% (115 women). The prevalence of ECS was 22% (140 of 635 deliveries). **Table I** highlight the Demographic characteristics of the women. Majority of women (62.14%) were between (15-25) years. Major chunk of women (44.28%) was Primigravida, the commonest gestational age (62.86%) at the time of ECS was more than 37 weeks. The booked cases undergoing ECS were 89 (63.57%). Most of the women belong to low middle and poor class, 101 women (72.14%) went in spontaneous labor and only 39 women (27.86%) were induced. The commonest indication for ECS was Fetal distress diagnosed by abnormal CTG in 55.71%, meconium in liquor 30.00% and continuous abnormal heart rate pattern in 14.29%. Operative findings highlight meconium-stained liquor in 53.57%, cord around the neck in 19.29%, placental insufficiency in 15.00% and normal findings were found in 12.14% as shown in Table ll, it also depicts the Apgar Score, neonatal resuscitation, Birth Weight and Fetal Maturity at the time ECG. Nursery admission rate was 27.85% percent due to different indication as shown in Table lll, majority of neonates 89.74% discharged and unfortunately 10.25% expired due to prematurity, sepsis and birth asphyxia.

Table l: Demographic Data of Women (n=140)

Variables	No of Women	Percentage
Age Years		
15 – 25	87	62.14
26 – 35	35	25.00
> – 35	18	12.86
Parity		
Primigravida	62	44.28
Multigravida	54	38.57
Grand-multigravida	24	17.15
Booking Status		
Booked	89	63.57
Un-booked	51	36.43
Socioeconomic Status		
Middle class	62	44.28
Poor	78	55.72
Mode of onset of Labor		
Spontaneous	101	72.14
Induced	39	27.86

Table ll: Diagnosis & Fetal Outcome (n= 140)

Mode of Diagnosis	No of Cases	Percentage
Abnormal CTG	78	55.71
Meconium in Liquor	42	30.00
Abnormal fetal heart rate	20	14.29
Findings at C/S		
Meconium in Liquor	75	53.57
Cord Around Neck	27	19.29
Placental Abnormality	21	15.00
Normal Findings	17	12.14
Apgar Score at 1 minute		
0 – 3	9	6.42
4 – 6	21	15.0
7 – 10	110	78.57
Neonatal Resuscitation		
Not required	62	44.28
Oxygenation	55	39.28
Bag & Mask Ventilation	23	16.43
Birth Weight k.g		
< 2.5	61	43.57
> 2.5-3	47	33.58
> 3	32	22.85
Duration of Gestation		
Mature >37 Weeks	88	62.86
Premature < 37 Weeks	37	26.43
Postmature > 42 Weeks	15	10.71

Table lll Nursery Admission & Outcome (n=39)

Cause of Admission	No of Cases	Percentage
Acute RDS	11	28.20
Meconium Aspiration	9	23.07
Neonatal Jaundice	7	17.94
Neonatal Sepsis	5	12.82
Neonatal Convulsion	4	10.25
Birth Asphyxia	3	7.69
Neonates went Home	35	89.74
Neonatal Death	4	10.25

DISCUSSION

According to WHO declaration caesarean section rate would not be more than 10% to 15%[14], because ECS are associated with more maternal and neonatal morbidity and mortality[15]. The rising trend of caesarean section has been observed both in developed and under developed countries including Pakistan from 3.2% to 20%[16, 17, 18]. The prevalence of ECS in our study was 22% which was quite high and this varied in different studies widely Naeem et al reported (11.3%), Moges et al (27.6%) and Hamilton et al (32.2%) [19, 20, 21]. Majority of the women (62.14%) in the study belonged to 15-25 years tallying with the age group reported in the study of Burshan et al[22]. In this study major chunk of women underwent ECS were Primigravida (44.28%) which varied from different researchers, Kattel reported 65.9%, Bhandri (63.6%) and Moges et al (36.4%) [23, 24, 20]. In our study 63.57% cases were booked and majority of them (78%) belonged to poor class similar with other studies [7, 8, 19]. The commonest indication of ECS was fetal distress (42.14) manifested by abnormal CTG, meconium stained liquor and persistent abnormal heart rate pattern in the study, these findings were tallying with other studies Bhandari reported (42.6%), Kattel (29.3%) and Renuka P. (37.3%) ECS were carried out because of fetal distress [23, 24, 25]. According to literature review emergency CS had more fetal morbidity and mortality as compare to elective CS [12, 13]. In our study Apgar score less than 7 at one minute was observed in 21.42% which was mimicking with other studies done by Kattel 19.5%, Grace et al 13.13% [23, 26]. At the time of ECS Pediatrician should be present for resuscitation of neonates in order to prevent asphyxia and further complications. In this study 55.72% neonates required resuscitation which was tallying with other studies [22, 24, 27]. Low birth weight and prematurity are notorious for more neonatal morbidity and mortality especially in ECS, in the study 43.57% were less than 2.5 k.g and 26.43% were premature < 37 weeks, these findings were similar with other researchers [12, 27, 28]. In our study 39 neonates (27.85%) required nursery admission because of difficulty in breathing either prematurity, asphyxia or RDS. Majority of neonates 89.74% went home safely mimicking with other studies, Kanwar D reported 96.8%, Benzouina 90.21% and Sichundu 88.76% [12, 27, 28]. In our study there were 10.25% neonatal deaths, prematurity, birth asphyxia and sepsis were the probable cause of death. High perinatal mortality could be prevented by proper counselling of women during pregnancy, close vigilant monitoring during Labour, decreasing decision delivery interval, proper resuscitation at birth by a competent Pediatrician, presence of trained staff and proper infrastructure in the Nursery.

CONCLUSIONS

Fetal distress was the commonest cause of Emergency Caesarean Sections and resulted high perinatal morbidity and mortality. It could be reduced by early recognition of fetal distress, decreasing decision delivery interval and proper resuscitation of neonates by a competent Pediatrician.

STUDY LIMITATIONS

As it was a descriptive retrospective study carried out in one tertiary care hospital, missing data in records may decreased the statistical power of this study and the results of this study could not be generalized.

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CONFLICTS OF INTEREST

I don't have any conflicts of interest regarding the study.

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ETHICAL APPROVAL

The study was approved by the Institutional review board of Al-Aleem Medical College/Gulab Devi Chest Hospital, Lahore. Vide IRB Reference No. AAMC/DME/IRB/EA/1221, Dated: January 22nd, 2021.

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AUTHOR'S CONTRIBUTIONS

NI: Concept, Research proposal
NN: Data collection,
KM, FN: Manuscript writing, Data Analysis
MN: Data Analysis, Proof reading.