ORIGINAL ARTICLE

Fetal Outcome in Preterm Cesarean Section

SHAMILA TASNEEM[1], SADIA SHAUKAT[2], SAIRA YUNUS[3]

ABSTRACT

Aim: To determine the fetal outcome in pre-term cesarean section in patients visiting Jinnah Hospital, Lahore.
Study Design: It was a descriptive case series.
Duration: From 20-12-2009 to 19-06-2010.
Method: A total of 175 cases between 20-40 years with pre-term deliveries booked/un-booked during 24 to 36+6 weeks(on dating scan), having Reactive CTG on 20 minute record and parity upto gravida 4 from Department of Obstetrics & Gynaecology, Jinnah Hospital, were included in the study.
Results: Out of 175 patients majority of the cases were between 26-30 years of age, mean age was found as 27.81±5.21, mean gestational age was 32-36±6 weeks, neonatal mortality was found present in 27(15.43%), respiratory distress syndrome was found in 123(70.28%) of the cases.
Conclusion: Fetal outcome in preterm caesarean at Jinnah Hospital, Lahore is not promising and cesarean section can not be recommended routinely in such cases, unless there are obstetric indications.
Keywords: Preterm birth, cesarean delivery, respiratory distress syndrome, neonatal mortality

INTRODUCTION

Currently premature birth is considered as the main cause of mortality and morbidity in neonates and infants[1,2,3]. According to the WHO, preterm birth is the direct cause of 24% of neonatal deaths. This disease is between 7-16%, and the statistics are comparable worldwide[4].

Cesarean section rate in 2005 was recorded in 33% infants between 34-36 weeks of gestation and 40% among 32-33 weeks' infants.[5] During 1990 to 2005, frequency of late preterm birth in the US was increased from 7.3-9.1% to 25%. Infants delivered late preterm gained more attention due to higher percentage i.e., 72%, this number is found to be increased and they took more attention and medical resources than normal infants[6,7,8,9].

Recent data indicating the fact that low-risk term infants delivering through primary cesarean section when compared with vaginal delivery recorded higher risk of mortality of neonates[10,11]. Although, delivery of very preterm infants in the gestation of 22-25 weeks, primary cesarean may initiate a survival advantage[12,13,14].

Normally, no structural and biochemical maturation of the fetus occurs before completion of the gestation. Neonatal respiratory distress syndrome is contributed with surfactant deficiency and structural immaturity of the lungs. Surfactant deficiency and structural immaturity of the preterm lung both contribute to neonatal respiratory distress syndrome (RDS)[15]. Tachypnea, chest wall retraction and cyanosis are considered to be the symptoms of RDS while on X-ray, the chest appears as 'ground glass'.

Very early birth corresponds to the canalicular stage of development of the lung, wherein the dense vascularisation mesenchyme has just started and there is little differentiation of epithelial cells of the respiratory tract in type I (so that gas exchange takes place), and II (cells that surfactants) .

Very early birth, coincident with the bag-shaped stage of development of the lungs; the pulmonary blood/air barrier starts at this stage, while the vasculature is incomplete and type II epithelial cells immature[16].

None of these developmental stages is compatible with an independent ventilation system and most of the children on this age require respiratory support[15].

This review is scheduled to determine the fetal outcome i.e. respiratory distress syndrome and neonatal mortality so that the obstetricians may adopt the useful delivery method to save the lives of premature babies.

MATERIAL AND METHODS

A total of 175 cases between 20-40 years with pre-term deliveries booked/un-booked during 24 to 36+6 weeks(on dating scan), having Reactive CTG on 20 minute record and parity upto gravida 4 from Department of Obstetrics & Gynaecology, Jinnah Hospital, were included in the study while cases with

[1]*WMO DHQ Hospital Kasur,*
[2]*Gynaecologist, Govt. Social Security Hospital Shahdra,*
[3]*Assistant Prof., Gynae., A. I Medical College, Lahore*
Correspondence to Dr. Shamila Tasneem shamailayasir@gmail.com, cell: 03244453943

the history of previous scarred uterus e.g. (cesarean section delivery + myomectomy), pregnancy with other medical disorders e.g. Hypertension(140/90 on two occasions 4 hours apart) and Diabetes mellitus(fasting blood sugar >110mg/dl)as they may effect on the results of the study were excluded from the study. Informed consent and demographic profile was taken from patients for including their data in this research work. Initially all patients presenting with pre-term labour pains were tocolysed and given antenatal steroid cover to fetal lung maturity. All cesarean sections were done under general, spinal, epidural anesthesia. Gestational age at the time of cesarean sections was noted in each case. The neonates were followed until discharge and observed for the following outcome neonatal mortality, respiratory distress syndrome. All this information was recorded in a pre-designed proforma.

SPSS version 11 was used to analyze the collected data. The demographic i.e., age was presented as simple descriptive statistics giving mean and standard deviation. Tables were formed, frequency and percentages was presented for neonatal outcome i.e., respiratory distress syndrome and neonatal mortality.

RESULTS

During the study period, out of 175 patients majority of the cases were between 26-30 years of age, mean age was found as 27.81±5.21, mean gestational age was 32-36±6 weeks, neonatal mortality was found present in 27(15.43%), respiratory distress syndrome was found in 123(70.28%) of the cases.

DISCUSSION

Cesarean section appears to be associated with increased risk of neonatal mortality among infants of low-risk term pregnancies, but the most extremely preterm infants may provide survival benefit. Effect on intermediate (32-33 wk) and late preterm (34-36 wk) deliveries was found to be uncertain.

Malloy MH conducted a study and concluded that for low-risk preterm infants at 32 to 36 weeks' gestation, independent of any reported risk factors, neonatal mortality and morbidity may be increased due to primary cesarean[17].

In the current study, our results are in accordance with the above mentioned study as we found 70.28% respiratory distress syndrome in infants born prematurely.

Further, our study is also comparable with another study conducted by Sonkusare S[18] who found that 'neonatal mortality rate was 20 percent for infants in caesarean group as compared to 10 percent for vaginal group', it is two times higher in patients delivered through cesarean section, they concluded that in routine, cesarean section should not be recommended till obstetrical conditions.

Another study conducted by Merja Kurkinen-Riity[19] assessed maternal morbidity, and neonatal outcome and especially long term sequelae in infants born preterm due to maternal or fetal indications, and distributed the patients in two groups indicated and control, cesarean section was done in indicated group while spontaneous preterm delivery patients were enrolled in control group, they revealed a significant difference for frequency of neonatal mortality among the groups (175 vs 78 per thousand live births in the indicated vs control infants; RR 2.3,95% CI 1.02,4.9), the main cause of mortality was respiratory insufficiency: 64% in the indicated group and 22% in the controls; RR 2-9,95% CI 0.8, 10. Respiratory distress syndrome (RDS) recorded more often (73% vs. 53% , RR 1.4,95% CI 1.1, 1.7) and it was more serious and complex in infants in the indicated group when compared to the infants in control group.

The results of the above study are also in support of the current study that influences the obstetricians not to recommend the cesarean delivery for preterm births as a routine matter.

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