

A comparative Study Of Caesarean Delivery In First Versus Second Stage Of Labor

Thesis

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SUMMARY

There are two principal types of caesarean section: elective (caesarean section without labour) and emergency (caesarean section performed during labour). Emergency caesarean sections are performed either in the first stage (active labor with less than full cervical dilatation) or in the second stage (labor with full cervical dilatation) of labour.

The most common cause of caesarean section in the first stage was cervical dystocia . On the other hand caesarean delivery in the second stage of labour accounts for approximately one fourth of all primary caesareans and the principle cause was obstructed labour.

This hospital based cohort study was performed at Ain Shams Maternity hospital where one thousand and two hundred (1200) patients from labour ward were included in the study.

This study showed high rates of both maternal and neonatal morbidity associated with primary caesarean section in the second stage of labor. Increased maternal morbidity included longer operation time, uterine incision extension, atonic postpartum hemorrhage, increased hospital stay, hemorrhage, need for blood transfusion .

Caesarean section during the second stage of labor was technically difficult this is often due to deeply impacted fetal head, difficulty in dissecting the bladder, difficulty in identification of limits of lower uterine segment, and decreased amniotic fluid.

The increased incidence of hemorrhage was due to both intraoperative uterine incision extension and uterine atony.

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List of Abbreviations

ACOG	<i>American Collage of Obstetricians and Gynecologists</i>
AORN	<i>Association of Operating Room Nurses</i>
A-V	<i>Arterio venous</i>
BMI	<i>Body Mass Index</i>
CDMR	<i>Caesarean Deivery after Maternal Request</i>
CS	<i>Caesarean Section</i>
CSE	<i>Combined Spinal Epidural</i>
C T	<i>Computed Tomography</i>
EPI	<i>Epinephrin</i>
FHR	<i>Fetal heart rate</i>
Gm	<i>Gram</i>
HIV	<i>Human Immuno difficiency Virus</i>
HPV	<i>Human PapillomaVirus</i>
HSV	<i>Herpes Simplex Virus</i>
Mgm	<i>Milligram</i>
Min	<i>Minute</i>
MRI	<i>Magnetic Resonance Imaging</i>
MTCT	<i>Mother To Child Transmission</i>
NEP	<i>Norepinephrin</i>
OP	<i>Occipto Posterior</i>
RCT	<i>Randomized Controlled Trial</i>
RCOG	<i>Royal College of Obstetric and Gynecology</i>
SD	<i>Standard deviation</i>
U/S	<i>Ultrasound</i>
UK	<i>United Kingdom</i>
USA	<i>United States of America</i>
VBAC	<i>Vaginal Birth After Caesarean section</i>

<i>VLBW</i>	<i>Very Low Birth Weight</i>
<i>Vs</i>	<i>Versus</i>
<i>WHO</i>	<i>World Health Organization</i>

INTRODUCTION

Caesarean section, is a surgical procedure in which incisions are made through a mother's abdomen (laparotomy) and uterus (hysterotomy) to deliver one or more babies. It is usually performed when a vaginal delivery would put the baby's or mother's life or health at risk, although in recent times it has been also performed upon request for childbirths that could otherwise have been natural

.(Finger, et.,al 2003).

The World Health Organization (WHO) recommends that the rate of Caesarean sections should not exceed 15% in any country. (*World Health Organization 2009*). However, this rate is almost doubling in the last decade, especially in high-income areas such as Australia, France, Germany, Italy, North America and the United Kingdom of Great Britain and Northern Ireland (UK).(*Black et.,al 2005*). Similar trends have also been documented in low-income countries such as Brazil, China and India, especially for births in private hospitals. (*Murray et.,al 2000*)

Caesarean section is recommended when vaginal delivery might pose a risk to the mother or baby. Not all of the listed conditions represent a mandatory indication, and in many cases the obstetrician must decide whether a caesarean is necessary. Some indications for caesarean delivery are: prolonged labor or a failure to progress (dystocia), fetal distress, cord prolapse, placental problems (placenta praevia, placental abruption or placenta accreta), abnormal presentation (breech or transverse positions), failed labor induction, failed instrumental delivery (by forceps or ventouse), overly large baby

(macrosomia). umbilical cord abnormalities (vasa previa, velamentous insertion), contracted pelvis.

Caesarean delivery during the second stage of labour with an impacted fetal head can be technically difficult and is associated with increased risk of maternal morbidity due to major hemorrhage, trauma to lower uterine segment, uterine incision extension, and prolonged operation time (*Murphy et al 2001*).

Delaying caesarean delivery until the second stage of labour also puts the fetus at an increased risk of hypoxia (*Allen et al 2005*) although the morbidity of caesarean delivery in the second stage of labor has been reported in comparison with caesarean delivery with no labor and in comparison with instrumental vaginal delivery, the morbidity in comparison with caesarean delivery during first stage of labor is less well studied (*Murphy et al 2001*).

The study done by Alexander JM has shown that there is little difference in neonatal complications and slightly increased risk of maternal morbidity (*Alexander et al 2007*).

On the other hand, first stage referrals usually not presented with features of obstructed labor and are less often associated with fetal distress. as a result, the associated morbidity in these cases is less for both mother and baby.

The objective of the study was to assess the maternal and neonatal outcomes when primary caesarean delivery is performed in the second stage of labor compared with those performed in the first stage.

AIM OF THE WORK

The objectives of the study are as follows:

Comparing caesarean delivery in the second stage of labor with cesarean delivery performed in the first stage regarding maternal and neonatal morbidities.

Caesarean Section

Definition:

Caesarean delivery also known as a C-section is a surgical procedure used to deliver a baby through an incision in the mother's abdomen and a second incision in the mother's uterus. This definition does not include removal of the fetus from the abdominal cavity in cases of uterine rupture nor in cases of abdominal pregnancy (*Cunningham et al., 2007*).

Caesarean deliveries may be performed because of maternal or fetal problems that arise during labor, or they may be planned before the mother goes into labor. (*Vincenzo Berghella et al., 2010*)

Historical background:

Caesarean section has been a part of human culture since ancient times and there are many tales in western and non-western cultures of this procedure resulting in live mothers and offsprings. Numerous references to caesarean section appear in ancient Hindu, Egyptian, Grecian, Roman and other European folklore. Ancient Chinese etchings depict the procedure on apparently living women. The Mischnagoth and Tamud prohibited primogeniture when twins were born by caesarean and waived the purification rituals for women delivered by surg the earliest attested usages of the made up language in an obstetric context date from the first century (*National Institutes of Health 2009*).

Etymology

The Roman *Lex Regia*, (later the *Lex Caesarea*) of **Numa Pompilius** (715-673 BC), required that the child of a mother dead in childbirth be cut from her womb.(*Pieter W.J. van Dongen et al 2009*) This seems to have begun as a religious requirement that mothers not be buried pregnant, and to have evolved into a way of saving the fetus, with Roman practice requiring a living mother be in her 10th month of pregnancy before the procedure was resorted to, reflecting the knowledge that she could not survive the delivery. Rumours that the term refers to the birth of the Roman dictator Julius Caesar are false; although Caesarean sections were performed in Roman times, no classical source records a mother surviving such a delivery(*Pieter W.J. van Dongen et al 2009*) . and Caesar's mother Aurelia Cotta bore six children after him and lived to serve him as an advisor in his adulthood.(*US National Institutes of Health 2010*)

The term has also been explained as deriving from the verb *caedo*, 'to cut', with children delivered this way referred to as *caesones*. And Pliny the Elder does refer to Julius Caesar (not the dictator, but a remote ancestor) as *ab utero caeso*, "cut from the womb", a godly attribute comparable to rumors about the birth of Alexander the Great.(*Pieter W.J. van Dongen et al ,2009*) .