

CAESAREAN SECTION: TIME TREND AND RISK FACTORS**Rasmiya Oraibi Lafta* & Husam Ali Habeeb@**

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Abstract

The increased incidence of caesarean section has got an important issue in the recent researches in obstetrics. The evaluation of the condition and factors that make a decision for an operation still a main challenge to both doctors and patients in evaluating benefits and risk factors both pre and post-operative to the mother and the baby. Continuous studies all over the world are still in run focusing on this problem. World Health Organization reported an incidence lower than 15% to be accepted. Almost all countries still recording higher rates, both in developed and developing countries.

This study has aimed to spotlight the problem in the main teaching obstetrics and gynecology hospital in Basrah, calculating the rate and risk factors associated with caesarean section which, similar to other countries, the rate is growing up.

A retrospective study was conducted to review the statistical data during the last ten years calculating the incidence rate of caesarean operations, reviewing the data of 700 first caesarean operations in year 2019 to assess the main causes for an operation.

It was clear that the rate of caesarean section has increased during the period from 2010 to 2019 from 24.2% to 38.5% with a study increment in both the total number of birth and the operation rate. The main reasons for operation were; repeated caesarean after a previous one in nearly 50%, while for a first caesarean, the causes were; failure to progress in 35%, infertility in 20.4%, breech presentation in 14.4%, meconium in 8.2%, cephalopelvic disproportion in 7%, and elevated blood pressure in 4%.

In conclusion, the decision for an operation is still a challenge to both doctors and patients, the included reasons for an operation are; patient background, fear of labor pain, advances in anesthesia, private sectors and family economic situations, all interacts with the obstetrical, gynecological and medical risk factors for an operation leading to an increasing rate of caesarean operations. Clear criteria are still in need with more expanded studies to reduce the rate, taking in account all the possible post-operative complications.

Key words: Spondylodiscitis, Surgery, Caesarean, Causes, Timing, Risks, Literature review.

Introduction

Cesarean section (CS), also known as C-section or caesarean delivery, is the surgery to deliver babies¹. Cesarean delivery is one of the most common surgeries performed in modern obstetrics. The surgery is intended to save the lives of mother and newborn². Cesarean sections are performed for various fetal and maternal indications; these include labor and delivery abnormalities, placental and cord abnormalities, and repeated CS deliveries. Recently, CS has been performed to satisfy women's desire; therefore, cesarean delivery on maternal request was added to the known

common CS indications³. Over several decades, a dramatic increase in the number of Caesarean sections performed across the world, especially in developed countries. The frequency of Caesarean section increased from 5% to 15%. However, the rate of births by Caesarean section still varies significantly in different countries and regions, in different hospitals, by the various factors such as social and economic health or individual factors, partly due to different perceptions of health workers and pregnant women about the benefits and risks of Caesarean section⁴. The increase

has been observed to be among women of all ages and race. Many theories have been proffered to explain this trend, including a decrease in vaginal births after Cesarean delivery, decreased vaginal births of breech presentation, and increased prevalence of high risk pregnancies such as advanced maternal age and some subjective indications during labor such as non-reassuring fetal status and arrest of dilation⁵. Although CS is a safe operation, when performed without medical need but it put mothers and their babies at risk of short and long-term health problems. Most complications of CS, however, come from the cause which leads to CS. Factors that make some women more likely to have complications include: obesity, large infant size, prolonged labor, multiple pregnancy, and premature labor. In the absence of a clear medical indication, the excess risk associated with the operation itself must be considered. Short and long-term maternal and infant problems associated with elective caesarean section are higher than those associated with vaginal birth⁶.

This study aimed to; determine CS rate during a decade, evaluate the first CS rate in comparison to second and over CS, and evaluate the main indications for a decision of CS.

Patients and methods

This retrospective study was set to evaluate CS rate during a decade from the year 2010 to 2019 calculating the operation rate and the incidence rate of first CS in comparison to overall delivery rate in Al-Basrah Hospital for Maternity and Childhood. The information was collected from the statistical unit at the hospital. The main indications for a first operation, distribution of cases according to mother age and parity were calculated by review of the statistical records and the patient information registry of 700 operations during 2019.

The total cesarean section rate is calculated as the number of births delivered by cesarean section divided by the total number of live births less the not-stated values for delivery method, multiplied by 100.

Results

Table I, shows the incidence of CS during the study period 2010-2019. The rate has increased from 24.2% in 2010 to 38.5% in 2019 with an overall increasing rate over each year, noticing the increment in the total number of births and number of operations (14180 births, 3432 CS) in 2010 in comparison to (19138 births, 7384 CS) in 2019.

Table I: Incidence rate of CS in 2010-2019.

Year	Total Births	CS	Percentage
2010	14180	3432	24.2
2011	17038	4190	24.5
2012	19272	5006	25.9
2013	20594	5712	27.7
2014	20516	5748	28.5
2015	20312	6565	30.5
2016	21660	7061	32.5
2017	21547	7972	36.9
2018	20505	7611	37.1
2019	19138	7384	38.5

Table II, shows the incidence of first CS during the years 2017, 2018 and 2019 in which the rate was nearly the same (47.8%, 46.4% and 50.2%) respectively.

Table II: The percentage of first CS to total CS.

Year	Total CS	First CS	Percentage
2017	7374	3526	47.8
2018	7611	3531	46.4
2019	7972	4002	50.2

Table III, shows the incidence of first CS according to maternal age in which the highest rate was in the 18-29 age group (61%), followed by 30-39 group (26%).

Table III: Incidence of first CS according to age of mother in year 2019.

Age	Number of CS	Percentage
Less than 18	53	7.5
18- 29	427	61
30-39	183	26
More than 40	37	5.2
total	700	100

Table IV, describes the distribution of first CS according to parity of the mother in which the highest rate was in the prime mothers (485 cases), (69.2%) and decreasing with increasing parity of the mother.

Table IV: Number of first CS according to parity in year 2019.

Party	Number of CS	Percentage
prime	485	69.2
1-4	140	20
More than 5	75	10.7
Total	700	100

Table V, describes the main causes of first CS, failure to progress was the main cause (35%), infertility (20.4%), breech presentation (14.4%), meconium (8.2%), CPD (7%), high blood pressure (4%) followed by other causes.

Table V: Number of first CS according to the cause.

Cause of CS	Number of cases	Percentage
Failure to progress	246	35
Infertility	143	20.4
Breech presentation	101	14.4
Meconium	58	8.2
CPD	49	7
HT	28	4
IUGR	20	2.8
DM	15	2.1
APH	11	1.5
Cord prolapse	8	1.1
Mal presentation	7	1
Hydrocephaly	6	0.9
Triplet	5	0.7
Midwife interference	3	0.4
Total	700	100

Discussion

Caesarean section is a major obstetric operation that remained a matter of controversy for several years and gained popularity in recent decades with a dramatic rise in the rate of CS deliveries all over the world⁷. In this study an increasing rate of CS was noticed during a period from 2010 to 2019 in which the rate has increased from 24.2% reaching to 38.5%, the CS increment rate was noticed as a global issues^{8,9}. It was reported to be 35%-40% in Iran¹⁰, about 32.8% in USA¹¹, 34.7% in Kuwait¹², 19.1% in Saudi Arabia¹³, 52% in Egypt¹⁴. Higher rates were reported in Dominican Republic (56.4%) and Brazil (55.6%)¹⁵. A low rate was reported in Jordan (8-11%)¹⁶. The main causes for the first CS in this study were; failure to progress in 35%, fetal stress in 20.4%, breech presentation in 14.4%, meconium in 8.2%, CPD in 7%, high blood pressure and its complications in 4%. The observed increase in cesarean birth has been attributed to a number of factors including; advanced maternal age particularly with the first birth, multiple pregnancies, breech presentation, suspected low infant birth weight, repeated cesarean section after a previous

cesarean section, cephalopelvic disproportion, asphyxia and preeclampsia¹⁷⁻¹⁹. In this study a repeated cesarean after previous one was the main cause for a high rate of cesarean deliveries, it was reported to be the cause of more than 50% of operations in the years 2017, 2018 and 2019. Many factors could influence the problem²⁰. A high rate of normal vaginal delivery after a CS was reported to be around 73% in USA²¹. A trial of normal delivery after a previous cesarean need to be assessed in a more detailed study. The frequency of absolute and relative indications occupies an important place, with indications of absolute and relative defects toward extended inductions. More and new indications may occur, which in a significant sense have a basis in diseases that are treated and supervised by various specialties outside gynecology⁹. Recommendation; The indications for CS should be cleared in a strict protocols, the trial of normal vaginal delivery after a first cesarean should be assessed, public background knowledge about risks of an operation is in need, and good antenatal care will help to decide the mode of delivery.

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