DOI Number: 10.37506/v20/i1/2020/mlu/194351

Indications and Adverse Outcomes of Emergency Lower Segment Cesarean Section at 1St and 2Nd Stages of Labor at Al-Elwiya Maternity Teaching Hospital

Weqar Akram[1], Thikra N. Abdulla [2], Taghreed Mardan Abullah[3]

[1]Lecturer, [2]Ass. Pro. Department of Obs. & Gyn., Al-Kindy College of Medicine, Baghdad University, [3]Specialist Obstetrics & Gyn., Abugraib General Hospital

Abstract

Background: globally that about 6.2 million unnecessary cesarean sections were done yearly. Oldest surgical operation and it is considered as one of the most commonly performed surgical operations**. Objective:** To assess the indications and adverse outcomes of emergency lower segment caesarean section at 1st and 2nd stages emergency Caesarean at Al-Elwiya maternity teaching hospital. **Patients and method:** A prospective cross sectional study conducted for 1 year duration in Al-Elwyia Teaching hospital in the period from the first of Jan. 2018 to the end of Dec. 2018, when 1229 of the women were enrolled. **Results:** A total of 1229 cesarean sections operations were done in the period of the study, 836 (68%) were 1st stage emergency Caesarean and 393(32%) were in 2nd stage. The most common indications of the caesarean section were the malposition (64.5%). Meconium aspiration Syndrome is the most common perinatal outcome (n=34).

Conclusion: The 2nd stage emergency Caesarean shows more maternal and neonatal complications in comparison with 1st stage

Keyword: *lower segment caesarean section, maternal complication, neonatal complication, 1st and 2nd stage emergency Caesarean.*

Introduction

It was estimated globally that about 6.2 million unnecessary cesarean sections (CS) were done yearly. (1) The CS rate were found in about 19% in data included from 194 countries and it's associated with higher mortality rate in both maternal and neonate. (2) While in a study done in 159 countries revealed that the rate of maternal and neonatal mortality was more than 10%. (3)

Among the primary caesarean deliveries the most common indication for an elective procedure is breech presentation and for an emergency procedure includes labor dystocia and 6 non- reassuring fetal heart rate tracings. (4)

In 1985, the World Health Organization (WHO) proposed that, of all births, the percentage of caesarean sections should be between 5 and 15%; a percentage lower than 5% would suggest a limitation in the performance of caesarean sections, while a higher percentage of caesarean sections would not represent additional benefits. (5)

Currently there are two concerns: while emerging countries seek to implement actions that allow greater accessibility to this procedure, in more developed countries or in sectors of populations with better economic conditions there is a growing increase in the percentage of cesarean sections performed. Only in the United States of America (USA), in 2006 a historical record of caesarean sections was reached. In that year, the percentage of births by abdominal route was 31.1%, with an increase of 50% in the last decade. In emerging countries such as China, caesarean section represents a percentage close to 40% of births, similar to South Korea. Belizan and collaborators (6) reported that in Latin American countries there is a well-documented phenomenon, in which the rate of caesarean section in 12 of 19 countries examined exceeded the maximum

Corresponding author:
Dr. Wegar A. Hussain,
email: wegarakram123@yahoo.com

percentage recommended by the WHO.

There is a marked difference in the recommendations on the indication of cesarean section among the different associations of obstetricians: The American College of Gynecology and Obstetrics (ACOG) [7] states that "in the absence of significant information on the risks and benefits of caesarean section [if the doctor believes that caesarean section promotes the health and well-being of the patient and her fetus more than vaginal delivery is ethically justified to perform it]. " In contrast, the International Federation of Gynecology and Obstetrics (FIGO) [8] state that "at present, there is not enough evidence without medical reasons of a net benefit to perform a cesarean section, so it is not ethically justified."

Maternal Characteristics

Of the maternal conditions that determine the way of birth, the maternal age and the reduction in the number of desired children stand out. [9] Gestational age less than 38 weeks of gestation or greater than 40 weeks increases the probability of having a cesarean birth. [10] Births at gestational ages between 29 and 36 weeks have a probability close to 57% of occurrence by caesarean section, compared to 33% in births with a gestational age between 37 and 42 weeks. [11] Primi women have a higher proportion of cesarean deliveries (43.3%) compared to women who have a previous child's history (34.9%), or two or more children (27.5%).

Among women of medium and high socioeconomic status there is a great preference for surgical delivery, [12] having determined that there is a relationship between socioeconomic indicators and the number of caesarean sections. [13]

Another maternal factor is the fear of labor pain, as it has been described that up to a quarter of women prefer a cesarean section after having a vaginal delivery. [14]

Obstetric Practice

Obstetricians of the female gender are those who perform a greater number of caesarean sections. In this regard, it has been estimated that there is a 12% higher probability that a woman will perform a cesarean than a man. [15]

Social Factors

The behavior of human beings, the cultural environment and beliefs are associated with the preference of cesarean births, although it is currently unknown how this preference affects. [16]

Institutional Factors

In private hospitals it is more frequent to perform caesarean sections than in public institutions. [17]

Economic Factors

The economic variables have to be taken into consideration. Multiple studies have been conducted to evaluate the cost and cost benefit of performing caesarean sections. [18]

Aim of the study

To assess the Indications and adverse outcomes of emergency lower segment caesarean section at 1st and 2nd stages of emergency Caesarean at Al-Elwiya maternity teaching hospital.

Patients and method:

A prospective cross sectional study conducted for 1 year duration in Al-Elwyia Teaching hospital in the period from the first of Jan. 2018 to the end of Dec. 2018, when 1229 of the women were enrolled. Information was obtained from theater room and from gynecological and obstetrical labor ward records. The patients were evaluated separately on designed performed.

Inclusion criteria: All primi and multiparous women (with term pregnancy) in active labor (with cervical dilation) with cephalic presentation were included.

Exclusion criteria:

1. All delivering women with previous scar
2. Patients with history of medical disorders (HT, DM, thyroid, ….etc)
3. Mal-presentation
4. Twin and other high order pregnancy
5. Preterm labor
6. Congenital anomalies

Results

A total of 1229 CS operation were done in the period

of the study, 836 (68%) were in 1st stage of labor and 393(32%) were in 2nd stage emergency Caesarean (figure 1).

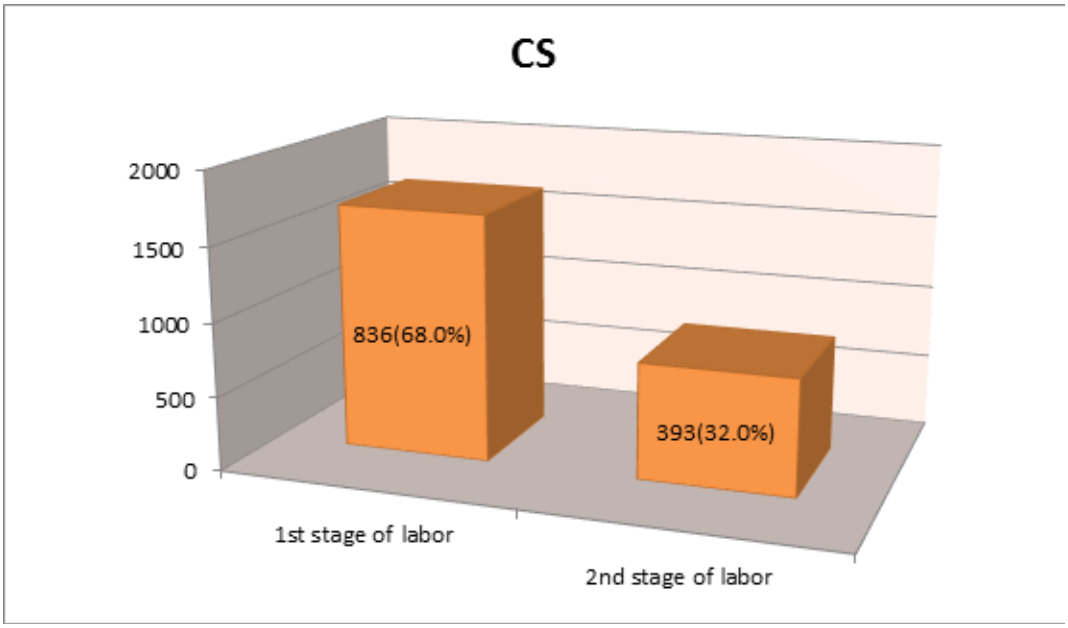

Figure 1: Distribution of CS in the studied group

As shown in table 1 the most common indications of the caesarean section were the malpresentation (64.5%), then fetal distress (20.8%), (10.7%) were failure to progress of labor, (4.4%) were APH and then cervical dystocia (3.9%).

Table 1: Indications for CS

	No.	%
Fetal distress	256	20.8
Mal position	739	64.5
Failure to progress of labor	132	10.7
Cervical dystocia	48	3.9
APH (abruption) at time of labor	54	4.4
Total	1229	100.0

Table 2, revealed that 74 patients have intraoperative complications, (48) of them were haemorrhage 13 patients with bladder injury, 10 were represent with extension of uterine and only 3 patients with caesarean hysterectomy complication.

The postoperative maternal complications of the studied patients were found in 466 (37.9%). The most common complications was UTI 183 (39.3%), then spinal headache which is found in 157/466, chest infection in 56/466, wound infection in 39 and 31 were in pelvic and genital infection. The 2nd stages were having more complications than 1st stage did.

Table 2: Intraoperative and postoperative maternal complications

Intraoperative maternal complications						
	2nd stage		**1st stage**		**Total(n=184)**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Haemorrhage	31	66.0	17	34.0	48	100.0
Bladder injury	8	61.5	5	38.5	13	100.0
Caesarean hysterectomy	2	66.7	1	33.3	3	100.0
Extension of uterine Incision/tear	7	70.0	3	30.0	10	100.0
Total	48		26		74	
Postoperative maternal complications						
	2nd stage		**1st stage**		**Total (n=466)**	
	No.					
Spinal headache	89	56.7	68	43.3	157	100.0
UTI	102	55.7	81	44.3	183	100.0
Chest infection	33	58.9	23	41.1	56	100.0
Wound infection	23	59.0	16	41.0	39	100.0
Pelvic and genital infection	18	58.1	13	41.9	31	100.0
Total	265		201		466	

MAS is the most common perinatal outcome (n=34), then birth asphyxia, perinatal death (n=12), prematurity (n=10), difficulty in delivering the fetus breech (n=7) and INCU (n=17). The 2nd stages of labor have more complications than 1st stage (table 3).

Table 3: Perinatal outcome

	1st stage (n=40)		**2nd stage (73)**		**Total**	
	N.	**%**	**N.**	**%**	**N.**	**%**
Birth asphyxia	12	36.4	31	53.6	33	100.0
MAS	11	32.4	23	67.6	34	100.0
Prematurity	7	70	3	30	10	100.0
Difficulty in delivering the fetus	2		5		7	100.0
INCU admission	7	41.2	10	58.8	17	100.0
Neonatal death	1	50.0	1	50.0	2	100.0

MAS= Meconium aspiration Syndrome

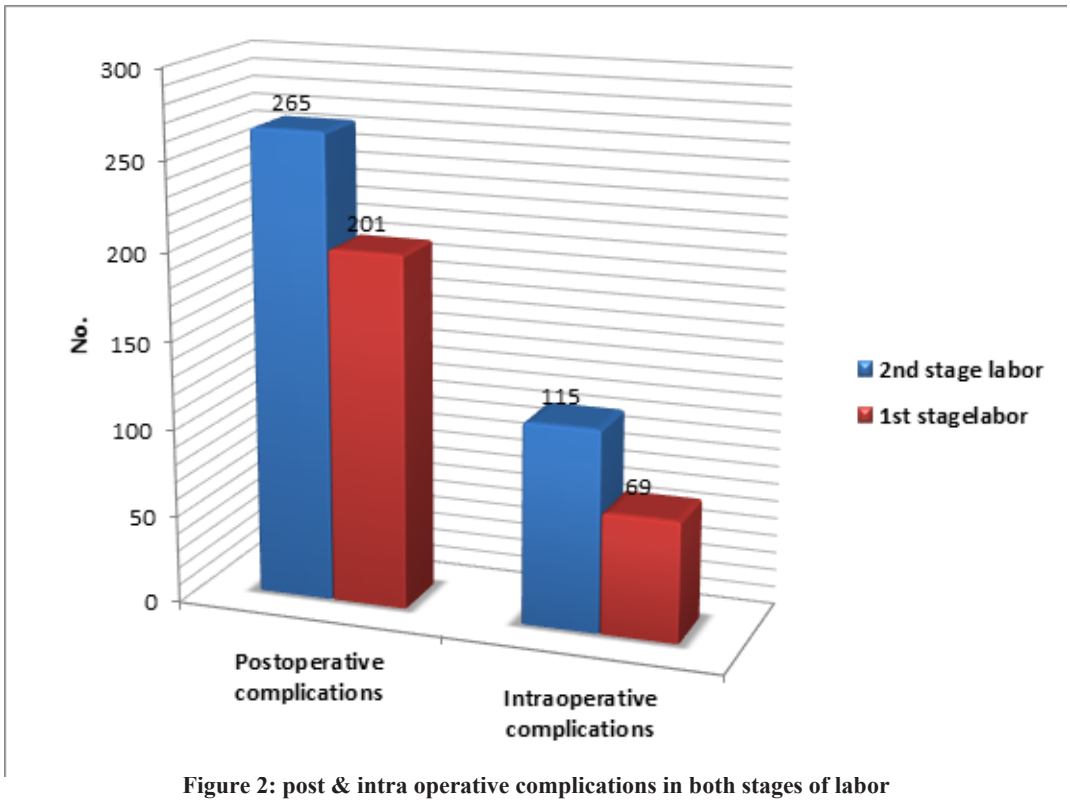

Figure 2: post & intra operative complications in both stages of labor

Discussion

In the present study the most common maternal indications for CS operation were mal position (64.5%), then fetal distress (20.8%), which is in agreement with that mentioned by Gulfareen H et al [19] when reported that female in Pakistan show that the most common indications for CS in addition to repeated CS the labor dystocia, fetal distress, APH.

While in Mussarat N et al,[20] the most important maternal Caesarean section indications were previous one (34%), then (6%) severe preeclampsia, and (6%) for post-date& failed labor induction, this may be due to difference in antenatal care provided.

There is increase in the prevalence in 2nd stage CS which associated significantly with long term maternal physical and psychological morbidity. This problem significantly needs good skill and knowledge to decrease the possible adverse events. It's probable to stay as a regular problem for obstetricians in the estimative future with continuing burdens to decrease elective CS rates. [21]

Moreover it is similar to that found by Rabiu et al,[22] when mentioned that there is a higher blood loss, caesarean hysterectomy, wound infection in women performed CS in the 2nd stage of labor in comparison with the 1st stage. Also same that found by Bashir A et al study. [23]

The present study revealed that CS in 2nd stage labor operation was particularly the risk for neonatal birth asphyxia; this neonatal outcome was debatable in earlier studies. Which is not similar to Alexander JM [24] and Selo- Ojeme et al. [25] found no difference in the risk of fetal asphyxia.

Conclusion

The 2nd stage of labor shows more maternal and neonatal complications in comparison with 1st stage.

Conflict of Interest: No

Source of Funding: Self

Ethical Clearance: Was taken from the scientific committee of the Iraqi Ministry of health

References

1. Gibbons L, Belizán JM, Lauer JA, et al. The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year: overuse as a barrier to universal coverage. World

health report. 2010;30:1-31.

2. Molina G, Weiser TG, Lipsitz SR, et al. Relationship between cesarean delivery rate and maternal and neonatal mortality. JAMA. 2015;314(21):2263–70.
3. Ye J, Zhang J, Mikolajczyk R, et al. Association between rates of caesarean section and maternal and neonatal mortality in the 21st century: a worldwide population-based ecological study with longitudinal data. BJOG. 2016;123(5):745–53.
4. Belgrave S. Caesarean Section. N Z Fam Physic 2003;30:269-72.
5. World Health Organization. Appropriate technology for birth. Lancet. 1985; 2: 436-7.
6. Belizan JM, Althabe F, Barros FC. Rates and implications of cesarean sections in Latin America: ecological study. BMJ. 1999; 319: 1297-402.
7. American College of Obstetricians and Gynecologists. Surgery and patient choice. In: Ethics in Obstetrics and Gynecology. 2nd ed. Washington, DC: The American College of Obstetricians and Gynecologists; 2004. p. 21
8. International Federation of Gynecology and Obstetrics. Issues in obstetrics and gynecology by the FIGO committee for the ethical aspects of human reproduction and women's health. FIGO 2003; 41: 2.
9. Benjamin S, Kobelin C, Castro MA, Frigoletto F. The risks of lowering the cesarean-delivery rate. N Engl J Med. 999; 340: 54-7.
10. Heffner LJ. Impact of labor induction, gestational age, and maternal age on cesarean delivery rates. American college of obstetricians and gynecologists. 2003; 102: 287-93.
11. Kassak KM. Opting for a cesarean: what determines the decision? Public Administration & Management. 2008; 13: 100-22.
12. Dominique P. Consumer demand for cesarean sections in Brazil: informed decision making, patient choice, or social inequality? A population based birth cohort study linking ethnografic and epidemiological methods. BMJ. 2002; 324: 1-6.
13. Wylie B, Fadi G. Cesarean delivery in the developing world. Clin Perinatol. 2008; 35: 571-82.
14. Pang MW, Leung TN, Lau TK, Hang Chung TK. Impact of first childbirth on changes in women's preference for mode of delivery: follow-up of a longitudinal observational study. Birth. 2008; 35: 121-7.
15. Lehmann S. Norwegian midwives and doctors have increased cesarean section rates. Acta Obstet Gynecol. 2007; 86: 1087-9.
16. Walker R. Strategies to global address cesarean section rates: a review of the evidence. Birth. 2002; 27: 79-81.
17. Belizán J. Rates and implications of caesarean section in Latin America: ecological study. BMJ. 1999; 319: 1397-400.
18. Zupanic JA. The economics of elective will cease section. Clin Perinatol. 2008; 35: 591-9.
19. Gulfareen H, Nishat Z, Aftab AM, Ambreen H. Pak J Med Sci 2009; 25:786-91.
20. Mussarat N, Qurashi S, Roohi M. LOWER SEGMENT CESAREAN SECTION (LSCS). The Professional Medical Journal. 2013 Dec 15;20(06):916-23.
21. Neilsen TF. Caesarean section. A controversial features of modem obstetric practice. Obstet Gynaecol 1986; 21: 57.
22. Rabiu KA, Adewunmi AA, Akinola OI, et al. Comparison of maternal and neonatal outcomes following caesarean section in second versus first stage of labor in a tertiary hospital in Nigeria. Nigerian Postgraduate Medical Journal 18: 2011:165-171.
23. Bashir AJ, Ibrahim RJ, Elhassan YA, et al. Maternal and Perinatal Outcomes Among Women Underwent Second-Stage Versus First-Stage Caesarean Delivery at Ibrahim Malik Hospital in Sudan. World Journal of Gynecology & Women's Health. 2018 Nov 26;1(3):1-4.
24. Alexander JM, Leveno KJ, Rouse DJ, et al. Comparison of maternal and infant outcomes from primary cesarean delivery during the second compared with first stage of labor. Obstetrics & Gynecology. 2007 Apr 1;109(4):917-21.
25. Selo-Ojeme D, Sathiyathasan S, Fayyaz M. Caesarean delivery at full cervical dilatation versus caesarean delivery in the first stage of labour: comparison of maternal and perinatal morbidity. Archives of gynecology and obstetrics. 2008 Sep 1;278(3):245-9.