The Egyptian Journal of Hospital Medicine (Apr. 2017) Vol.67 (2), Page 679-682

Cesarean Section among Primigravidae: Cross Section Study – Abha Saudi Arabia

Roaa Fahad Alshabanah, Tahani Saeed Almohayya,
Ebtesam Mohammed Alahmari, Sarah Saeed Alshahrani,
Norah Ibraheem Almanie, Reem Ali Almanie, Amal Nasser Alqahtani
King Khalid University
Corresponding Author: Roaa Fahad Alshabanah, Roaa-Alshabanah@hotmail.com

ABSTRACT

Background: The Primary caesarean section (CS) delivery worldwide rate is increasing due to public interest to avoid fetal complications and acceptance by most of the couple to complete their family with one or two children. This study was undertook to study selected cases of primary CSs in primigravid women, keeping the objectives to study the complications lead to cesarean section, maternal morbidity and mortality.

Methods: Cross sectional survey conducted among Primigravidae in maternity & Pediatrics hospital – Abha – obstetrics & gynecology department between January 2016 and December 2016. Overall 170 cesarean section has been done out of 1167 births.

Conclusion: Preeclampsia, eclampsia, placenta previa, intrauterine growth restriction, macrosomic fetus, malpresentation of the fetus, loss of fetal moment, fetal distress and labor dystocia are all indication of cesarean section. Our study revealed that cesarean section among Primigravidae still low in our area of the study.

Keywords: Cesarean Section, Primigravidae.

INTRODUCTION

First caesarean section is termed as 'Primary Caesarean Section' when it is performed for the first time on pregnant women to deliver the baby by doing laparotomy (opening the peritoneal cavity by giving incision on anterior abdominal wall) and hysterectomy (opening the uterine cavity by giving incision on uterus). This definition does not include removal of the baby from the abdominal cavity in case of rupture uterus or in an abdominal pregnancy **[1]**.

There has been a remarkable increase in the rate of caesarean section (CS) in both developed and developing countries in the past decades, increasing from about 5% in developed countries in the early 1970s to more than 50% in some regions of the world in the late 1990s **[2-5]**. Caesarean delivery one of the most common major operation in United States up to 41% of total operation although the rate has been declined for the last three year in a row to 32.0% [6-7]. This high incidence of caesarean section delivery is due to better technique, better anesthetics, different antimicrobial agents, blood transfusion facilities etc. However, it must be accepted that caesarean section delivery carries somewhere between 5 and 10 times more risk than that of vaginal delivery [8]. Based on a survey by the World Health Organization (WHO) on methods of delivery during the period 2007–8, the overall rates of CS around the world were 27·3% and 27% [9], despite the fact that in 1985, WHO recommended that no region should have a CS rate over 10–15% [10,11]. The rate of Caesarean delivery in the United States has steadily increased since 1996 when the rate was 21%. In 2007, the rate was the highest ever recorded at 32%, representing 1.4 million births and a 53% increase since 1996 [12]. This caesarean delivery trend encompasses increases in the caesarean rate for women of all ages, races, geographic areas and gestational age.

The real reason for this remarkable increase is unknown. Therefore, a widespread debate on the reasons for the progressively increasing rate of CS is taking place in both the medical and lay press. In recent years, an increasing number of women requested delivery by elective CS without a valid "medical indication" was observed because of the fear of episiotomies, long and

Received: 22 / 03 /2017
Accepted: 30 / 03 /2017
DOI : 10.12816/0037821

painful labor, pelvic floor trauma and subsequent incontinence associated with vaginal birth [13]. The common indications for primary caesarean section deliveries are as follows: fetal distress, dystocia or failure to progress in labor, malpresentation, performed out of concern for fetal wellbeing or maternal wellbeing, obstructed labor, placenta previa, etc. The term "caesarean delivery on maternal request (CDMR)" has generated worldwide debate because several studies have shown that this phenomenon may be one of the drivers of the rising CS rate [13-16]

The Primary caesarean section deliveries carry the risk of future pregnancy and hence, increase the rate of repeat caesarean section. Every minute a women dies during labor or delivery. The highest maternal mortality rates are in Africa, with a lifetime risk of 1 in 16; the lowest rates are in Western Nations (1:2800), with a global ratio of 400 maternal deaths per 100,000 live births [17]. However, maternal mortality has decreased dramatically in last 50 years from 650 per 100,000 births in 1940 to 14.1 per 100,000 births in 1988. In the United States, maternal death associated with caesarean section delivery is rare. In 1980 reported a series of 10000 consecutive caesarean sections with no maternal death [8].

The aim of our study was to estimate the overall CS rate in Abha Saudi Arabia and to describe the factors associated with the increased CS rate.

METHODS

This study was conducted in the department of Obstetrics and Gynecology maternity & Pediatrics hospital – Abha, since January 2016 to December 2016. A total of 100 cases were selected for the study who regularly attended outdoor (Booked) and admitted, those who booked in antenatal clinic but admitted as emergency and those who never attended antenatal clinic (Unbooked) but admitted as an emergency.

Thorough history taking, examination and clinical assessment were done in all the study cases and recorded all information found important for the study. Investigations needed were carried out. After proper assessment and evaluation primary caesarean section deliveries were performed as per necessity.

Regular admissions are given from the antenatal clinic. But, maximum number of cases are admitted directly from the emergency labor room who presented in labor. Outdoor Primigravidae cases were admitted normally at 39th-40th weeks of pregnancy. High risk cases were admitted early irrespective of period of gestation.

In the study cases, special pro-forma were filled up noting hospital no., MRN no., name, age, gravida, parity, complications during pregnancy and labor, indication for CS, post-partum period up to puerperium. General examination, obstetrical examination, breast examination and systemic examination were carried out for diagnosis and management. Lidocaine gel was used for ripening and misoprostol and low dose oxytocin were used for induction of labor in some cases. The study cases were monitored by standard partograph of World Health Organization (WHO). Vaginal examination was done 4 hourly to assess the progress of labor. Whenever there was any sign of fetal distress or failure in progress of labor, caesarean section was done immediately. Counselling was done with guardians and consent was taken for elective or emergency CS.

All the cases were received broad-spectrum antibiotic injection Ceftriaxone 1gm intravenously 12 hourly, Amikacin 500mg intravenously 8 hourly and infusion metronidazole 500mg intravenously 8 hourly for 3 days. Uncomplicated caesarean section delivery cases were discharged on 4th day post operatively. All the mother and neonates were advised to come in Gynecology outpatient department clinic for check-up and Pediatric outpatient department clinic for immunization of the baby after 6 weeks.

RESULTS

The study consisted of 170 Primigravidae underwent lower segment caesarean section as primary cesarean section. Most of the participants (52.35%) were between 21 and 30 age group with mean age 27 ±7 years old (table1). Out of all (70%) undergo urgent cesarean section (table2).

Incidence of complications during PREGNANCY/LABOR that lead to cesarean

section presented in table 3 with the mostly frequent complication is fetal distress (18.24%).

Table 1: Age incidence of study population		
Age (year)	**Number of patients**	**Percentage %**
<20	28	16.47%
21 – 30	89	52.35%
31 – 40	53	31.18%
> 40	0	0.00%

Table 2: Mode of Operation		
Complications	**Number of patients**	**Percentage %**
Elective CS	68	40.00%
Emergency CS	102	60.00%

Table 3: Incidence of complications during PREGNANCY/LABOR that lead to cesarean section		
Complications	**Number of patients**	**Percentage %**
PIH / PET / Eclampsia	19	11.18%
Placenta Previa	38	22.35%
IUGR	13	7.65%
Macrosomic Fetus	12	7.06%
Malpresentation	17	10.00%
Loss of fetal movement	21	12.35%
In adequate pelvic	4	2.35%
Fetal distress	31	18.24%
Labor dystocia	15	8.82%

DISCUSSION

Cesarean section can be divided into two main categories, elective cesarean which is planned at least 8 hours before and emergency section [18]. Our study showed that the overall rate of CS (14.56%), From January 2016 to December 2016 a total of 170 (14.56%) Primigravidae underwent lower segment caesarean section as primary cesarean section out of 1167 births in maternity & Pediatrics hospital – Abha. Per selected group, it has been seen that most common age group in the present study was 21 – 30 years 89 (52.35%).

Among the study cases, 40% were booked, 17% were booked but admitted as emergency and 43% were Unbooked. Out of 170 cases 40% were elective and 60% were emergency. The low rate of cesarean section in our hospital may come to women are less desire to be delivered by cesarean and the wishing to have spontaneous vaginal delivery unless it is medically indicated. Higher rate of cesarean probably because presence of a previous history of cesarean section comes in the first place followed by maternal request.

In the past few decades, we have witnessed a steady rise in global CS rates. In addition to an increase in the numbers of CS deliveries performed worldwide, there has also been a change in the indications for CS; a reflection of changing times [19]. A survey conducted in the US showed that the leading four indications for CS were prolonged labor (dystocia), previous CS delivery, breech presentation, and fetal distress [20]. Based on the survey conducted by Wang et al. [21], the main indication for CS in 1999 was cephalo-pelvic disproportion, and this changed to previous CS delivery in 2009.

Previous CS is the single greatest risk factor for placenta previa and placenta accrete. If either of these occurs, there is a risk of catastrophic bleeding at delivery, leading to significant maternal morbidity and mortality.

Out of elective cases 2 patients had inadequate pelvis. Other indications were pre-eclamptic 12 cases, Placenta Previa 16 patients, malpresentation in 13 cases 13 IUGR and 12 macrosomic fetuses. Emergency caesarean section were done in 31 fetal distress, 7 either due to PIH,PET, or eclampsia, 2 inadequate pelvis, 22 placenta previa,4 malpresented fetus, 21 due to loss of fetal movement, and 15 failure to progress (**Table 3**).

Intraoperative complications were also observed but all patients have no complication during operation. There were neither maternal nor fetal mortality during the study due to obstetrics cause. All babies delivered to the neonatologist to be assessed and examined but that part is not included in the study. Maternal morbidity (post-partum period) was seen in 18 cases. Out of them 6(33.3%) febrile, 4(22.2%) wound infection,

1(5.5%) pulmonary infection and 1(5.5%) paralytic ileus morbidity were observed.

CONCLUSION

Preeclampsia, eclampsia, placenta previa, intrauterine growth restriction, macrosomic fetus, malpresentation of the fetus, loss of fetal moment, fetal distress and labor dystocia are all indication of cesarean section. Our study revealed that cesarean section among Primigravidae still low in our area of the study.

REFERENCES

1. **Patar Jagannath (2016)**: Primary Caesarean Section in Primigravida: A Clinical Study, 4(9B):3307-3311
2. **Wilkinson C, McIlwaine G, Boulton-Jones C, Cole S (1998)**: Is a rising caesarean section rate inevitable? Br J ObstetGynaecol, 105:45–52.
3. **Arias E, MacDorman MF, Strobino DM, Guyer B (2003)** :Annual summary of vital statistics—2002. Pediatrics, 112:1215–1230.
4. **Belizan JM, Althabe F, Barros FC, Alexander S (1999)**: Rates and implications of caesarean sections in Latin America: ecological study. BMJ.,319:1397–1400.
5. **Villar J, Valladares E, Wojdyla D, Zavaleta N, Carroli G, Velazco A, Shah A,Campodónico L, Bataglia V, Faundes A, Langer A, Narváez A, Donner A,Romero M, Reynoso S, de Pádua KS, Giordano D, Kublickas M, Acosta A(2006)** :WHO 2005 global survey on maternal and perinatal health research group: Caesarean delivery rates and pregnancy outcomes: the 2005 WHO global survey on maternal and perinatal health in Latin America. Lancet,367:1819–1829.
6. ***Kathryn R Fingar, Carol Stocks, Audrey J Weiss, and Claudia A Steiner.* (2014)**: Most Frequent Operating Room Procedures Performed in U.S. Hospitals National Centre for Health Statistics. HEALTHCARE COST AND UTILIZATION PROJECT, https://www.hcup-us.ahrq.gov/reports/statbriefs/sb186-Operating-Room-Procedures-United-States-2012.pdf
7. **Joyce A Martin, Brady E Hamilton, Michelle J K Osterman, Anne K Driscoll, T J Mathews. (2017)** Births: Final Data for 2015. Division of Vital Statistics, 2017–1120 .
8. **Dewhurt (1995)** :Textbook of Obstetrics and Gynaecology for Postgraduates (English), Blackwell publishing, 5th Edn, 393.
9. **Lumbiganon P, Laopaiboon M, Gulmezoglu AM, Souza JP, Taneepanichskul S, Ruyan P, Attygalle DE, Shrestha N, Mori R, Nguyen DH, Hoang TB, Rathavy T, Chuyun K, Cheang K, Festin M, Udomprasertgul V, Germar MJ, Yanqiu G, Roy M, Carroli G, Ba-Thike K, Filatova E, Villar J (2010)** :World Health Organization Global Survey on Maternal and Perinatal Health Research Group: Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health 2007–08. The Lancet, 375:490–499.
10. **World Health Organization (1985)** Appropriate technology for birth.the lancet, 2(8452):436–437.
11. **Selinger H (2014)** Maternal request for caesarean section: an ethical consideration. J Med Ethics, 40(12):857–860.
12. **Menacker F, Hamilton BE (2010)**Recent trends in cesarean delivery in the United States. https://www.cdc.gov/nchs/data/databriefs/db35.pdf
13. **Wang CP, Tan WC, Kanagalingam D, Tan HK (2013)** Why we do caesars: a comparison of the trends in caesarean section delivery over a decade. Ann Acad Med Singapore, 42:408–412.
14. **Latham SR, Norwitz ER (2009)** Ethics and "cesarean delivery on maternal demand". Semin Perinatol., 33:405–409.
15. **Declercq E, Menacker F, MacDorman M (2005)** Rise in "no indicated risk" primary caesareans in the United States, 1991–2001: cross sectional analysis. BMJ. ,330:71–72.
16. **Huesch MD, Doctor JN (2013)** Cesarean delivery on maternal request. JAMA. 310:978.
17. **World Health Organization (2005**) authors The World Health Report 2005: Make Every Mother and Child Count. Geneva, Switzerland: WHO. http://www.who.int/whr/2005/whr2005en.pdf.
18. **Keisersnitt faktaark. Fra medisinsk fødselsregister, fra Folkehelseinstituttet (2013)** Available from www. fhi.no
19. **D'Souza R, Arulkumaran S (2013**) To 'C' or not to 'C'? Caesarean delivery upon maternal request: a review of facts, figures and guidelines. J PerinatMed.,41:5–15.
20. **Tita AT (2012)** When is primary cesarean appropriate: maternal and obstetricalindications. Semin Perinatol., 36:324–327.
21. **Wang CP, Tan WC, Kanagalingam D, Tan HK: Why we do caesars (2013)** a comparison of the trends in caesarean section delivery over a decade.Ann Acad Med Singapore, 42:408–412.