

The Outcome Analysis of Cesarean Section Cases in One-Year Period

Osman BALCI, Kazım GEZGİNÇ, Ali ACAR

Konya-Turkey

OBJECTIVE: The purpose of the study is to evaluate the rates, indications and complications of patients who had undergone cesarean section in one year, in the department of obstetrics and gynecology Selçuk University, Meram Medical Faculty.

STUDY DESIGN: Patients who gave birth between January 2005 and January 2006 in our hospital were enrolled in this study and retrospectively analyzed. The cesarean section rates, its complications, indications, the patients mortality and morbidity were studied.

RESULTS: The total number of births in one year was 2148. Of these 2148 births, 1055 (49.11%) were vaginal births and the remaining 1093 (50.88%) were cesarean deliveries. Although prior cesarean deliveries were the major indication with 402 (36.77%) cases, fetal distress with 144 (13.17%) cases, elective cesarean with 124 (11.34%), abnormal pelvis (CPD) with 108 (9.88%) cases were also found to be high. Two cases of maternal mortality were detected in our study. (18.29/10000). Of these two mortalities, one was HELLP Syndrome and the other one was preeclampsia patients. The morbidity rate was found to be 14%. 11% febrile morbidity, 1.28% postoperative endometritis, 1.09% urinary tract infection, 0.73% wound infection were detected. One patient had urinary bladder injury during surgery.

CONCLUSIONS: The rates of cesarean deliveries are increasing day by day. The increased rates of prior cesarean deliveries is a critical factor for the risks of recurrent surgeries and cost-effectiveness. We concluded that to determine the real indications for primary cesarean deliveries and to be more selective and careful are assumed to decrease the cesarean delivery rates.

(*Gynecol Obstet Reprod Med 2007;13:1 26-28*)

Key Words: Cesarean section, Cesarean rates, Indications of cesarean section

Cesarean section is a kind of surgical technique in which fetus, placenta and its membranes are delivered by uterine incision following laparotomy.¹ The first successful cesarean section was performed in USA in 1794 and the mother and the baby had survived.^{2,3} Cesarean deliveries had been gradually increased since 1800's. Morbidity and mortality were high in the initial cesarean sections. However today these rates are decreased by improvements in surgical techniques, anesthesia, hemostasis, asepsis, antibiotics and blood transfusions.³

Cesarean section is one of the most commonly performed operations in USA. Because of this, the cost-effectiveness of cesarean section is important. In the last fifteen years, the rates of cesarean section have been started to increase. Although in 1970's the rate of cesarean section was 5.5%, in 1996 and 2004 it was detected as 20.7% and 29.1% respectively.^{4,5} In our country as the data collection system is not sufficient, the rates of the cesarean sections are not exactly known. However, approximately 40% and in some centers reaching to as high as 80% rates of cesarean section have been reported.⁶

Department of Obstetrics and Gynecology, Selçuk University, Meram Medical Faculty, Konya, Turkey

Address of Correspondence Osman Balci
Selçuk Üniversitesi,
Meram Tıp Fakültesi
Kadın Hastalıkları ve Doğum ABD
Akyokuş, Konya, Turkey

Submitted for Publication: 10.07.2006

Accepted for Publication: 18.07.2006

Material and Methods

2148 patients who gave birth between January 2005 and January 2006 in our hospital were enrolled in this study and retrospectively analyzed. The normal vaginal deliveries rates, the cesarean section rates, its complications, indications, the patients mortality and morbidity rates were studied.

Results

The total number of births was 2148 between January 2005 and January 2006 in our hospital. Of these 2148 births, 1055 (49.11%) were vaginal births and the remaining 1093 (50.88%) were cesarean deliveries. Total cesarean section rates were calculated as 50.88%. 402 (36.77%) cases of all cesarean deliveries were multiple or single prior cesarean. The age, gravidity, parity and gestational age of the patients were detected as 28.24±1.20, 3.75±0.53, 2.23±0.41 and 37.74±0.98 week, respectively.

The most common indications of cesarean section were detected as multiple or single prior cesarean section with 402 (36.77%) cases, fetal distress with 144 (13.17%) cases, elective cesarean 124 (11.34%) cases, abnormal pelvis (CPD) with 108 (9.88%) cases, pregnancy after an infertile period and infertility treatment with 61 (5.58%) cases, multiple pregnancy with 47 (4.30%) cases, preeclampsia, eclampsia, HELLP Syndrome with 46 (4.20%) cases, abnormal presentation (breech, transvers) with 46 (4.20%) cases, failure at induction of labor (dysfunctional labor) with 34 (3.11%) cases, respectively (Table 1).

Table 1. The indications of cesarean sections in our clinic

Indication	n (1093)	%
Multiple or single prior cesarean section	402	36.77
Fetal distress	144	13.17
Maternal requests (Elective cesarean)	124	11.34
Abnormal pelvis (CPD)	108	9.88
Pregnancy after an infertility period	61	5.58
Multiple pregnancy	47	4.30
Preeclampsia + Eclampsia + HELLP Syndrome	46	4.20
Abnormal presentation (breech, transvers)	46	4.20
Failure at induction of labor (Dysfunctional labor)	34	3.11
Abruptio placenta	16	1.46
Dystocia (Brow, face, extremity presentation)	14	1.28
Placenta previa	10	0.91
Prior uterin surgery	10	0.91
Miscellaneous	31	2.83

CPD: Cephalo Pelvic Disproportion

Two cases of maternal mortality were detected in our study in cesarean group (18.29/10000). Of these two mortalities, one was HELLP Syndrome and the other one was severe preeclampsia patient. The morbidity rate was found to be 14%. Febrile morbidity was found as the most common. (11%). Postoperative endometritis was detected in 14 (1.28%) cases. Urinary tract infection and wound infection were detected in 12 (1.09%) and 8 (0.73%) respectively. One of the patients who was performed prior cesarean had urinary bladder injury during surgery.

Discussion

Cesarean section is one of the most commonly performed operations. But it is important to be careful for its complications. The purpose of the cesarean surgeries are to protect lives of the mother and the baby. In addition, as maternal morbidity and mortality rates are higher than vaginal deliveries. The indications must be exact. Without exact indications, the benefits and the risks of cesarean sections must always be kept in mind.⁷

The rates of the cesarean sections have been increased in the last decades. In a study by Pedro A. Poma et al. in 1999, the rate of cesarean section was reported as 1400 (17.88%) in 7827 births.⁸ Although in 1970's the rate of cesarean section was 5.5%, in 1996 and 2004 it was detected as 20.7% and 29.1% respectively.^{4,5} In a study by Florica et al. Performed in Switzerland, it was reported that the rates of cesarean section was increased from 13.8% to 18.1% in years between 1994 to 1999.⁹ In our country as the data collection system is not sufficient, the rates of the cesarean sections are not exactly known. However, approximately 40% and in some centers reaching to as high as 80% rates of cesarean section have been

reported.⁶ On the other hand in domestic studies the rates were reported as between 15% and 65%.^{10,11} Our national cesarean section rates are not exactly known. In a study by Yalinkaya et al. from Dicle University between 1983 and 2002, the rates of cesarean section was found as changing from 17.22% to 52.39% and they concluded that these rates have been increasing with time.¹² In 1992 the rate of cesarean section was detected as 14.8% and this rate was increased to 27.5% in 1999.¹³ In the last year, the rate of cesarean section was found as 50.8% at our clinic. We assumed that this is a high rate of cesarean section.

We were detected the most common cesarean section indications as multiple or single prior cesarean 36.77%, fetal distress 13.17%, elective cesarean 11.34%, abnormal pelvis (CPD) 9.88%, multiple pregnancy 4.30%, preeclampsia, eclampsia and HELLP Syndrome 4.20%, abnormal presentation (breech, transvers) 4.20% and failure at induction of labor (dysfunctional labor) 3.11%. Multiple or single prior cesarean sections are comprised 35% of all cesarean deliveries in USA.¹⁴ In a study by Notzan et al. in 1994, they showed that cesarean sections performed because of prior cesarean section and dystocia comprise approximately half of all cesarean deliveries in USA and western european countries.¹⁵ In a study by Yalinkaya et al., multiple or single prior cesarean section, elective cesarean section and fetal distress was found as the most increased indications and they reported that while prior cesarean section rate was under 20% until 1994, it was gradually increased from 1995 and reached up to 30.18% in 2002. They detected that the rate of elective cesarean section increased to 14.01% from 1.63%, the rate of cesarean section because of fetal distress increased to 15.86% from 5.89%.¹² In a past study performed in our clinic, in 1992 the rate of

cesarean section was detected as 14.8% and this rate was increased to 27.5% in 1999. It was found the rate of cesarean section because of cephalopelvic disproportion as 17.31% between 1992 and 1999.¹³

Maternal morbidity rates are higher than vaginal deliveries in cesarean surgeries. The most common causes of the maternal morbidity are endomyometritis, bleeding, urinary tract infections and tromboembolism. Morbidity is especially much more higher in obese patient.¹⁶ The complications that occurred during surgery are increased morbidity of cesarean section. These complications occur especially in emergency cases. Ureter, urinary bladder or intestine injuries may be occur rarely. These kinds of injuries were seen more higher in especially the patients who had intraabdominal adhesions because of prior cesarean section.¹⁷ In our study the morbidity rate was found as 14%. Febrile morbidity was detected as the most common with 11%. Postoperative endometritis, urinary tract infection and wound infection rates were detected 1.28%, 1.09% and 0.73% respectively. One of the patients who was performed prior cesarean had urinary bladder injury during surgery.

As a result, the rates of cesarean deliveries are increasing day by day. Increasing in multiple or single prior cesarean section rates, spread usage of antenatal diagnosis techniques, pregnant and obstetricians who are showing inclination to elective cesarean section because of various reasons had been increased the rate of cesarean section in recent years. The increased rates of prior cesarean deliveries is a critical factor for the risks of recurrent surgeries and cost-effectiveness. We concluded that to determine the real indications for primary cesarean deliveries and to be more selective and careful are assumed to decrease the cesarean delivery rates.

References

1. Deep R. Cesarean delivery and other surgical procedures. In: Gabbe S, Niebly J, Simpson JL. *Obstetrics: Normal and problem pregnancies*. 2. ed. New York: Churchill Livingstone 1991; 635.
2. Cunningham FG, MacDonald PC, Gant NF. *Williams Obstetrics*. 20th ed. Apyleton and Lange. Stamford Connecticut 1997; 509-31.
3. Durfee R. Cesarean Section. *Nichol's Gynecologic and Obstetric surgery*. Chapter 67. Mosby-Year Book Inc. Westline 1993; 1075-122.
4. Ventura SJ, Martin JA, Curtin SC. Report of finally natal-ity statistics. *Mon Vital Stap Rep* 1996; 46:2-9.
5. Resnik R. Can a 29% cesarean delivery rate possibly be justified? *Obstet Gynecol* 2006; 07:752-4.
6. Önderoğlu L, Deren Ö, Ayhan A, Gürkan T. Vaginal Doğummu? Sezaryen mi? *Hacettepe Tıp Dergisi* 1999; 30:61-5.
7. Abbassi H, Aboufalah A, Morsad F, Matar N, Himmi A, Mansouri AE. Maternal complications of cesarean section: retrospective analysis of 3,231 interventions at the Casablanca University Hospital, Morocco *Sante* 2000; 10:419-23.
8. Pedro A. Poma. Effects of obstetrician characteristics on cesarean delivery rates: A community hospital experience. *Am J Obstet Gynecol* 1999; 180:1364-72.
9. Florica M, Stephansson O, Nordstrom L. Indications associated with increased cesarean section rates in a Swedish hospital. *Int J Gynaecol Obstet*. 2006; 92:181-5.
10. Seven M, Özyurt O, Karacaoğlu M, Çelikhdelen U, Savan K, Yıldırım B. Sezaryen Oranları, Endikasyonları ve Perinatal Morbidite-Mortalite. *Perinatoloji Dergisi* 1996; 4:15-9.
11. Ergin A, Başer İ, Atay , Küçük T, Güngör S, Alpaydın B, Pabuççu R. GATA Kadın Hastalıkları ve Doğum Anabilim Dalı'nda 1991-1994 Döneminde Yapılan Sezaryenlerin Analizi. *Gülhane Askeri Tıp Akademisi Bülteni* 1995; 37:415-20.
12. Yalınkaya A, Bayhan G, Kale A, Yayla M. Dicle üniversitesinde 20 yıllık sezaryen oranı ve endikasyonları. *T Klin Jinekoloj Obst* 2003; 13:356-60.
13. Çiçek N, Çelik Ç, Köşüş N, Görkemli H, Acar A, Akyürek C. Sezaryen oranlarımız nereye gidiyor. *S.Ü. Tıp Fak Dergisi* 2001; 17:117-22.
14. Rates of cesarean delivery in United States, 1993, *MMVR Morb Mortal Wkly Rep* 1995; 44:303-7.
15. Notzon FC, Cnattingius S, Bergsjö P, Cole S, Taffel S, Irgens L, Daltveit AK. Cesarean section delivery in the 1980s: international comparison by indication. *Am J Obstet Gynecol* 1994;170:495-504.
16. Perlow JH, Morgan MA. Massive maternal obesity and perioperative cesarean morbidity. *Am J Obstet Gynecol*. 1994; 170:560-5.
17. Metropolitan Life. Average charges for uncomplicated cesarean and vaginal deliveries, United States. *Stat Bull Metrop Insor Co* 1994; 75:27-36.