Low Primary Cesarean Delivery Rates of a Secondary Health Center in a Seven Year-Period

2. Basamak Bir Hastanenin 7 Yıllık Dönemde Düşük Primer Sezaryen Doğum Oranları

Low Rates of Primary Cesarean Delivery

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Özet

Amaç: 2. basamak bir hastanenin primer sezaryen seksiyo (SS) oranlarının ve endikasyonlarının sunulması amaçlanmıştır. Gereç ve Yöntem: Bu retrospektif çalışmada Mart 2009-Aralık 2015 tarihleri arasında 2. basamak bir hastanenede gerçekleşen doğumlar incelenmiştir. Toplam doğum sayısı, primer ve tekrarlayan SS sayısı, SS endikasyonları ve komplikasyonları değerlendirilmiştir. Bulgular: 7 yılllık çalışma süresi boyunca 6535 doğum gerçekleşmiştir. Hastaların ortalama yaşı 26.7 ± 6.0 (yaş aralığı: 15-47 yaş) olarak saptanmıştır. Tüm doğumların %20,5'i SS ile gerçekleşmiştir. Sezaryen seksiyoların %27,8'i primer, %72,2'si tekrarlayan seksiyodur. Çalışma dönemine ait ortalama primer ve tekrarlayan SS oranı sırasıyla %5,7 ve %14,8 olarak hesaplanmıştır. 2009 yılında %8,8 olan primer SS oranı 2015 yılında %4,3'e düşmüştür. En sık primer SS endikasyonları sırasıyla malprezentasyon (%33,9), fetal distres (%23,3) ve başarısız doğum indüksiyonu (%14,8) olarak saptanmıştır. SS yapılan hiçbir hastada bağırsak yaralanması saptanmamıştır. Tekrarlayan SS grubunda bir hastada mesane hasarı saptanmış ve başarıyla onarılmıştır. Tartışma: Çalışmamızda saptanan primer SS oranları oldukça düşüktür. Bu düşük oranlar hastaların vajinal doğum konusunda bilgilendirilmeleri ve cesaretlendirilmeleri, anne isteğine bağlı SS yapılmaması, term gebeliklerde amniyotik membran sıyırma işleminin yapılması gibi faktörlere bağlanabilir.

Anahtar Kelimeler

Sezaryen Seksiyo; Primer Sezaryen Seksiyo Oranı; Sezaryen Seksiyo Endikasyonları

Abstract

Aim: To present the indications and primary caesarean section (CS) rates of a secondary level hospital. Material and Method: This is a retrospective review of the births recorded at a secondary health center between March 2009 and December 2015. The number of patients with primary CS and repeat CS, total number of births, caesarean indications, and complications were assessed. Results: A total of 6535 live births were recorded during a seven-year-long study period. The mean age of the patients was determined as 26.7 ± 6.0 years (range of age: 15-47 years). Delivery by CS was performed in 20.5% of the total births. Of the caesarean births, 27.8% were primary CS and 72.2% were repeat CS. The mean primary and repeat CS rates during the study period were calculated as 5.7% and 14.8% respectively. The primary CS rate was 8.8% in 2009 and this number decreased to 4.3% in 2015. The most frequently encountered primary CS indications were malpresentation (33.9%) followed by fetal distress (23.3%) and failure of labour induction (14.8%) respectively. No intestinal injury was determined in any patient who underwent caesarean delivery. In the repeat CS group, only one patient had a bladder injury that was successfully repaired. Discussion: The rates of primary caesarean section determined in this study are very low. These low rates can be attributed to several factors such as informing and encouraging patients about vaginal birth, avoiding CS on maternal request, and applying amniotic membrane stripping at term pregnancies.

Keywords

Caesarean Section; Rate Of Primary Caesarean Section; Caesarean Section Indications

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Introduction

Although there are differences between countries in the rates of births by caesarean section (CS), an increase has been observed worldwide in these rates [1]. However, as there is increased maternal morbidity and mortality in CS compared to vaginal delivery, CS indications should be restricted to cases where there would be a definite benefit to both mother and fetus [2, 3]. It is also known that multiple CS has been associated with an increase in maternal morbidity and mortality [4, 5]. The rates of CS have been reported as approximately 30% in the USA, 17%-52% in European countries, and, according to 2014 data of the Turkish Ministry of Health, 51.1% in Turkey [1, 4]. The ideal rate of CS is a debatable issue. The 2006 NIH report stated that the ideal rate of caesarean section should not be restricted to numbers, but should be a rate whereby maximal results are obtained for the health of the mother and infant [6]. In a report on caesarean births published by the Turkish Association of Gynaecology and Obstetrics in 2013, it was reported that the rate of 15% CS, as defined by the WHO in 1985, had not been realised and the priority was to reduce CS rates to 35% [7]. In a retrospective study by Kupari et al. [8] examining full-term pregnancies, it was shown that the increase in CS had not improved short-term neonatal outcomes. However, there are views advocating that when attempting to reduce CS rates to below 10%-15%, there could be a reduction in neonatal well-being [9].

Although vaginal birth following CS is recommended for suitable cases, it has been reported that following a CS, 90% of subsequent births are also CS [10]. Therefore, with the increasing rates of primary CS, it is necessary to encourage vaginal delivery after a caesarean birth to be able to reduce CS rates.

The aim of this study was to present the number of births, the rates of primary and repeat caesarean deliveries, the indications, and complications at a secondary level hospital.

Material and Method

This study was conducted at Pazarcık State Hospital, which is a secondary level hospital. Approval for the study was granted by the Local Ethics Committee.

The records were examined of births at Pazarcik State Hospital between March 2009 and December 2015. The age of the patient, type of birth, primary caesarean section indications, and complications associated with CS were recorded. All of the reviewed deliveries by CS were performed by two surgeons (A.O., S.O.) using the Joel-Cohen technique.

The hospital where the study was conducted is a secondary level hospital serving a population of approximately 100,000. Almost all of the females in this population presented at the hospital for antenatal monitoring. On first presentation or at later appointments, patients could be transferred to a tertiary hospital if necessary.

Indications for transfer included monoamniotic monochorionic twin pregnancy, triplets, or higher multiple pregnancy, PPROM, severe pre-eclampsia, diabetic patients for whom glucose regulation could not be applied, total placenta previa cases, suspected cases of placenta accreta, those with severe oligohydramnios/polyhydramnios before 37 weeks, and those with major medical disorders. Patients with a Bishop score <6 at 41 weeks or later were also transferred. For those with a Bishop score >6, delivery was induced with 12 hours of oxytocin. If labour did not start after 2 applications of 12-hour induction, CS was performed.

The pregnant patients were informed about normal vaginal delivery and caesarean delivery during routine monitoring examinations. Patients with a history of CS underwent elective CS in the 39th week. Primary CS was not applied on maternal request only.

The pregnant patients were called for antenatal monitoring at monthly intervals up to the 32nd week, at 2-week intervals up to the 36th week and weekly thereafter. From the 38th week onwards, patients planning a vaginal birth gave informed consent for amniotic membrane stripping to be applied.

Collected data were analyzed by Statistical Package for the Social Sciences version 18.0 (SPSS IBM Inc., Armonk, NY, USA). Continuous variables were expressed as mean ± standard deviation (range: minimum-maximum) whereas categorical variables were denoted as numbers or percentages where appropriate.

Results

A total of 6535 live births were recorded between March 2009 and December 2015. The mean
age of the patients was 26.7±6.0 years (range: 15-47 years).
Table 1 summarizes the birth related statistics within the study period. Delivery by CS was
performed in 20.5% of the total births. Of the caesarean births, 27.8% were primary CS and
72.2% were repeat CS. The primary CS rate was 8.8% in 2009 and this number decreased to
4.3% in 2015. The mean rate of repeat CS was 14.8% within a seven-year-long study period.

The indications for primary CS are shown in Table 2. The most frequently encountered
indications were malpresentation (33.9%) followed by fetal distress (23.3%) and failure of
labour induction (14.8%) respectively.

Table 3 demonstrates the complications occurring in women who delivered by CS. No intestinal injury was determined in any CS patient. In the repeat CS goup, bladder damage was determined in 1 patient and at 14 days following primary repair, the bladder was catheterised. No further problems were reported by the patient.

Discussion

Caesarean section is the most frequently performed surgery in the USA [4]. The CS rates in Turkey are extremely high. According to data of Turkish Ministry of Health the rate of CS in Turkey was 48.0% in 2012, 50.4% in 2013, and 51.1% in 2013. In a 2013 report by the Turkish Association of Gynaecology and Obstetrics, the reasons for this high rate of CS included factors such as a widespread desire for painless births, lack of infrastructure in delivery units, an insufficient number of qualified midwives, medicolegal concerns of physicians, false beliefs about the process of giving birth, and lack of information.

The demand for elective CS has increased for reasons such as the fear of labour pains, aesthetic concerns, the belief that the

neonatal outcome will be better, and the belief that there will be pelvic floor damage and, associated with that, urinary incontinence could develop and sexual function quality could decrease. However, Blanchette et al. [4] reported that despite the increase in CS rates, there had been no significant improvement in neonatal morbidity and maternal health parameters. It has also been reported that there is an increase in neonatal respiratory morbidity in caesarean deliveries [11].

Silver et al. [10] emphasised an increase in the risk of placenta accreta associated with repeated caesarean deliveries. An increase in cases of placenta accreta has caused an increase in peripartum hysterectomy and postpartum haemorrhage and an associated increase in maternal mortality. In the indications for peripartum hysterectomy, placenta accreta has increased from 5.4% to 46.5%. In cases with a history of CS, the rates of peripartum hysterectomy have risen from 27% to 57% [12]. In the 'Preliminary births for 2004: Infant and maternal health' report of the National Center for Health Statistics, it was stated that approximately 12%-15% of CS were performed on maternal request. It is important that these risks are explained, in particular to patients making their own request for CS.

Özcan et al. [5] reported increased maternal morbidity in patients undergoing multiple CS. When cases of placenta accreta were not included in that study, there was reported to be an increase in adhesions because of repeated CS and an associated prolonged operating time, postoperative infection rates, intestinal and urinary system injuries, and peripartum hysterectomy. Qublan et al. [13] reported similar results, whereas in contrast, Lynch et al. [14] reported that there was no increase in maternal morbidity associated with repeated CS.

In the current study, there was no intestinal injury to any CS patient. In 1 patient of the repeated CS group, there was a bladder injury. All the CS operations of the current study were performed by 2 surgeons (A.O., S.O.) using a similar technique. Due to the possibility of intestinal adhesions, when entering the abdomen, the peritoneum was elevated with 2 clamps and the scissor cut was made in an area where it was certain that there was no tissue adhesion below the peritoneum. The abdomen was entered by widening this cut area. This technique can be considered to reduce the possibility of intestinal injury.

Pallasmaa et al. [2] reported that maternal and neonatal outcome would be good with CS rates below 15% and even at 12.9%. However, that study was conducted in Finland, where all births are in hospitals are free of charge and obstetric care conditions are well-standardised; these factors could be considered to have influenced the results.

The most important way to reduce the rates of repeat CS is to reduce the rate of primary CS. The rate of primary CS in Turkey was 26.3% in 2014. In the current study, the overall rate of 5.7% of primary CS is among the lowest rates in the country. The reasons for this can be listed as:

1. At each antenatal appointment, examination was made by the same doctors, a standard antenatal protocol was applied, and therefore good records were kept.
2. A good relationship of trust was established among the patient, doctor, and midwives.
3. The patient's relatives were with the patient during labour to give support.
4. CS was not performed on maternal request only. According to a statement by the American College of Obstetricians and Gynecologists in 2007, unless there was a maternal and/or fetal indication for caeserean delivery, vaginal delivery is safe and appropriate and should be recommended [15].
5. High-risk patients were transferred. The mean rate of transfer in the study period was 5.4%. If it is considered that CS was applied to all these patients, the total primary CS rate would have been 11.1% (the primary CS rate of 5.7% plus 5.4%). This rate is still lower than that recommended by the WHO [7].
6. The high rate of normal births and postnatal patient satisfaction was an incentive to other patients.
7. The physician took an active role, together with the midwife, in the observation of labour (vaginal exam, NST evaluation, delivery).
8. From the 38th week onward, amniotic membrane stripping was applied to patients planning a vaginal delivery.

In post-term pregnancies, there are risks such as oligohydramnios, macrosomia, shoulder dystosia in delivery, fetal distress, and increased CS rates [16]. Amniotic membrane stripping provides a reduction in post-term pregnancies and in the number of patients for whom formal induction methods are used [17-20]. It has been reported in the Cochrane review that amniotic membrane stripping does not increase maternal and fetal morbidity [18]. It is our opinion that applying outpatient amniotic membrane stripping in polyclinic conditions reduced post-term pregnancies and thereby reduced the rate of primary CS.

In conclusion, a primary CS rate of 5.7% is an extremely low value. This low rate can be attributed to several factors such as informing and encouraging patients about vaginal birth, avoiding CS on maternal request, and applying amniotic membrane stripping at term pregnancies. Further research is warranted to clarify the measures that would be undertaken to reduce caesarean delivery rates.

Declaration of interest: The authors have no conflict of interest to declare.

Competing interests

The authors declare that they have no competing interests.

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