

Contribution of Multiple Pregnancies that Increase the Rate of Cesarean Birth

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Abstract

Examining the contribution of multiple pregnancies to the Increased Rate of Cesarean Birth., This is a retrospective observational study. In order to examine contribution of multiple pregnancies to the increased rate of cesarean birth, we studied 10286 live births delivered during 2013, in Obstetrics and Gynecology Clinic/University Clinical Centre of Kosovo. Out of 10,286 births; 97.22 percent (n=10,000) were singleton pregnancies, 2.78 percent (n=286) multiple pregnancies, out of these 2.63 percent (n=270) twins, 0.15% (n=16) triplet pregnancies. Out of 10286 live births; 3158 (30.70 percent) were delivered through caesarean section, whilst 7128 (69.30 percent) were delivered through vaginal delivery. This reveals that rate of cesarean birth in Kosovo during 2013, was very high: 30.70 percent. From 286 women with multiple pregnancies; 189 (66.1%) women delivered through caesarean section, whilst only 97 (33.9%) women delivered through vaginal delivery. We came to the conclusion that the contribution of multiple pregnancies to the increased rate of cesarean birth was very high, 66.1 percent women with multiple pregnancies have delivered through caesarean section, contributing with 5.99 percent in total rate of cesarean birth.

Keywords

Multiple Pregnancies, Contribution, Rate of Cesarean Birth, Kosovo

1. Introduction

Multiple births are much more common today than they were in the past. According to the US Department of Health and Human Services, the twin birth rate has increased by over 75% since 1980, and triplet, quadruplet, and high-order multiple births have increased at an even higher rate. There are two types of twins: identical and fraternal (non-identical). Identical twins occur when a single embryo, created by the union of a sperm and an egg, divides into two embryos. Each embryo is monozygotic, genetically identical, and both will be the same sex. Non-identical twins occur when two separate eggs are each fertilized by a separate sperm. The two embryos that result are dizygotic, not genetically identical, and can be the same or different sex. The main factor that increases chances of having a multiple pregnancy is the use of infertility treatment, race, age, heredity, or history of prior pregnancy. Although major medical advances have improved the outcomes of multiple births, multiple

births still are associated with significant medical risks and complications for the mother and children [11].

Multiple pregnancies usually require a cesarean delivery. But for twin births, vaginal delivery may be an option. Reasons to have cesarean delivery for a multiple pregnancy are; Are three or more fetuses. A fetus is breech or transverse. A fetus weighs less than 2000 g. When have twins that are joined by any part of the body (conjoined). The twins that share one amniotic sac (monoamniotic twins), because of the risk that the cords will get tangled. There are signs of fetal distress, such as a very rapid or very slow heart rate. The cervix has not dilated over time despite adequate uterine contractions. The uterus is overstretched and cannot contract enough during labor (uterine inertia), making labor long and difficult. When have delivery with repeat cesarean [12].

Some cesareans occur in critical situations, some are used to prevent critical situations, and some are elective. In general, the reasons for Cesarean Deliveries are? [13] Placenta previa: This occurs when the placenta lies low in the uterus and partially or completely covers the cervix. If a

complete or partial placenta previa has been diagnosed, a cesarean is usually necessary. Placental abruption: This is the separation of the placenta from the uterine lining that usually occurs in the third trimester. This separation can interfere with oxygen getting to the baby, and depending on the severity, an emergency cesarean may be performed. Uterine rupture: In approximately 1 in every 1,500 births, the uterus tears during pregnancy or labor. This can lead to hemorrhaging in the mother and interfere with the baby's oxygen supply. This is a reason for immediate cesarean. Breech position: When a baby is in the breech position, a cesarean delivery is often the only option, although a vaginal delivery can be done under certain circumstances. However, if the baby is in distress or has cord prolapse (which is more common in breech babies) a cesarean is necessary. A cesarean may also be done if the baby is premature. Cord prolapse: This situation does not occur often, but when it does, an emergency cesarean is performed. A cord prolapse occurs when the umbilical cord slips through the cervix and protrudes from the vagina before the baby is born. When the uterus contracts, it causes pressure on the umbilical cord, which diminishes the blood flow to the baby. Fetal distress: The most common cause of fetal distress is a lack of adequate amounts of oxygen delivered to the baby. If fetal monitoring detects a problem with the amount of oxygen that your baby is receiving, an emergency cesarean may be performed. Failure to progress in labor: This can occur when the cervix has not dilated completely, labor has slowed or stopped, or the baby is not in an optimal delivery position. This can be diagnosed correctly once the woman is in the second phase (beyond 5 centimeters dilation), since the first phase of labor (0-4 centimeters dilation) is almost always slow. Repeat cesarean: Ninety percent of women who have had a cesarean are candidates for a vaginal birth after cesarean for their next birth (VBAC). The biggest risk involved in a VBAC is uterine rupture, which happens in 0.2-1.5% of VBACs. However, there are criteria you must meet in order to have a VBAC. Cephalopelvic Disproportion (CPD): A true diagnosis of CPD occurs when a baby's head is too large or a mother pelvis is too small to allow the baby to pass through. Active genital herpes: If the mother has an active outbreak of genital herpes (diagnosed by a positive culture or actual lesions), a cesarean may be scheduled to prevent the baby from being exposed to the virus while passing through the birth canal. Diabetes: If you develop gestational diabetes during your pregnancy or are diabetic, you may have a large baby or other complications. This increases your chance of having a cesarean. Preeclampsia: Preeclampsia is a condition involving high blood pressure during pregnancy. This condition could prevent the placenta from getting the proper amount of blood needed and decrease oxygen flow to the baby. Only with severe preeclampsia is a cesarean needed. Birth defects: If a baby has been diagnosed with a birth defect, a cesarean may be done to help reduce any further complications during delivery [13].

Frequencies of birth with cesarean section point out the ratio of women undergoing cesarean sections birth to all

women who undergo normal birth, over a period of time.

Over the past 35 years, there is an increase in international frequencies in cesarean birth, although for most of the European countries, the overall frequency remains considerably lower than in the United States of America. Some contributing factors which had an impact on the increased incidences of caesarean births are; expanding indications both fetal and maternal, including preterm births, multiple pregnancies, previous deliveries through cesarean section, breech births etc.

The East through caesarean represents over 1 million major operations, carried out every year in the United States of America [1]. This is a major surgical procedure more common, taken today.

Cesarean section was introduced in clinical practice as a lifesaving procedure both for the mother and the baby. As other procedures of some complexity, its use follows the health care inequity pattern of the world: underuse in low income settings, and adequate or even unnecessary use in middle and high income settings. [2, 3, 4, 5]

Worldwide cesarean delivery rates have come under scrutiny and criticism since the World Health Organization (WHO) suggested in 1985 that the optimal rate should not exceed 10 to 15 percent.

2. Objective

- Examining contribution of multiple pregnancies to the Increased Rate of Cesarean Birth

3. Methods

This is a retrospective observational study. We analyzed rates of cesarean delivery, including indications, among 10,286 live births during 2013, in Obstetrics and Gynecology Clinic/University Clinical Centre of Kosovo. A relative risk was estimated when it comes to multiple pregnancies to the increased rate of Cesarean birth. Statistical analysis was performed using the softwares for statistical analysis (medcalc). Sum tests were used to compare differences in categorical variables.

4. Ethical Approval

The study approved by the scientific committee of the Obstetrics and Gynecology Clinic / University Clinical Centre of Kosovo (was used protocol no.1, 2, 3, 4, 5/2014). All students included in the study provided written informed consent

5. Results

In order to examine contribution of multiple pregnancies to the increased rate of cesarean birth, we studied 10286 live births delivered during 2013, in Obstetrics and Gynecology Clinic/University Clinical Centre of Kosovo.

Out of 10,286 births; 97.22 percent (n=10,000) were

singleton pregnancies, 2.78 percent (n=286) multiple pregnancies, out of these 2.63 percent (n=270) twins, 0.15% (n=16) triplet pregnancies.

Out of 10286 live births; 3158 (30.70 percent) were delivered through caesarean section, whilst 7128 (69.30 percent) were delivered through vaginal delivery. This reveals that rate of cesarean birth in Kosovo during 2013, was very high: 30.70 percent.

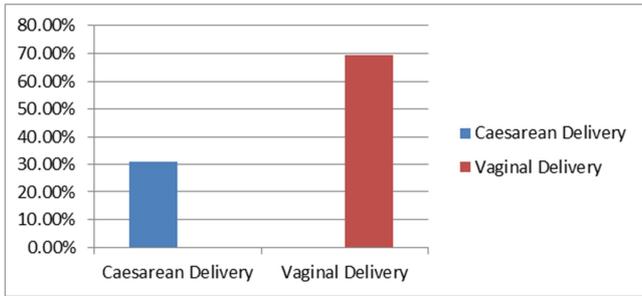


Figure 1. Methods of delivery.

Out of 286 women with multiple pregnancies; 189 (66.1%) women have born through section caesarean, while only 97 (33.9%) women have born with vaginal delivery.

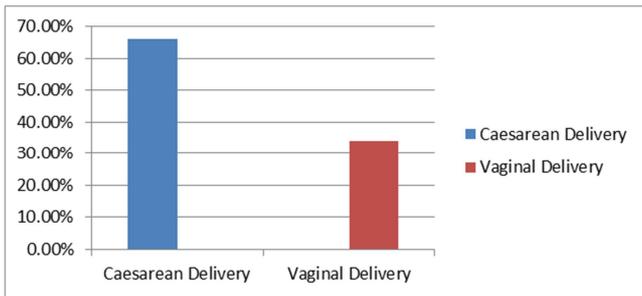


Figure 2. Methods of delivery to multiple pregnancies.

In order to estimate contribution of multiple pregnancies to the increased rate of cesarean birth, initially we have studied women that have delivered through caesarean section, following those with vaginal delivery (using it as control group). Out of 3158 women who delivered through caesarean section; 189 (5.99%) were multiple pregnancies, while 2969 (94.01%) were singleton pregnancies, following women that delivered with vaginal delivery; 97 were multiple pregnancies, whilst 7031 were singleton pregnancies. (See table below).

Table 1. Method of delivery for women with multiple pregnancies and those with singleton pregnancies *.

	Number of women	Significance level
Multiple pregnancies (Caesarean Delivery)	189	Odds ratio (OR) =4.61, 95% CI: 3.5988 to 5.9161
Multiple pregnancies Vaginal Delivery (control group)	97	Significance level P < 0.0001
Singleton pregnancies (Caesarean Delivery)	2969	Odds ratio (OR) =0.21, 95% CI: 0.1690 to 0.2779
Singleton	7031	Significance level P < 0.0001

	Number of women	Significance level
pregnancies Vaginal Delivery (control group)		
Total	10286	

*the table above demonstrates high significance level for multiple pregnancies, and shows the contribution of multiple pregnancies to the increased rate of cesarean birth.

6. Discussion

A number of reasons have been proposed for the observed increase in cesarean birth

In Kosovo during 2013, were 2.78 percent (n=286) multiple pregnancies, out of these 2.63 percent (n=270) twins, 0.15% (n=16) triplet pregnancies [10].

In Kosovo during 2013, rate of cesarean birth was 30.70 percent, while the total U.S. cesarean delivery rate reached a level of 32.9% of all births in 2009, increase of 60% from the most recent low level of 20.7 in 1996 [6].

In Kosovo during 2013, 66.1 percent of women with multiple pregnancies delivered through caesarean section, contributing with 5.99 percent in total rate of cesarean birth.

In Australia in 2007, two thirds of all twins were born by CS, [7] compared with 47% in 1998. [8]. Over this same time period, there were an increasing proportion of multiple births [7]. Similarly, singleton term breech infants were also more likely to be delivered by CS, the proportion increasing from 81% in 1998 to 96% in 2007 [7, 8].

The proportion of multiple births before 37 weeks varied from 68.4% in Austria to 42.2% in the Republic of Ireland. In half of the countries, over 20% of all preterm births were attributable to multiple births [9].

7. Conclusion

We came to the conclusion that the contribution of multiple pregnancies to the increased rate of cesarean birth was very high, 66.1 percent women with multiple pregnancies delivered through caesarean section, contributing with 5.99 percent in total rate of cesarean birth. The majority of births to women with multiple pregnancies gave birth prematurely. But today, the use of modern technology allows survival of many preterm neonates in developed countries, but such care is not to a great extent available in developing countries. This can be a contributing factor in the increased incidences of cesarean section births to women with multiple pregnancies in Kosovo. We will have to think about developing strategies for improving access to effective care in developing countries as antenatal management of a multiple pregnancies, as well as the method of delivery as and effective neonatal care.

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