

THE INCIDENCE OF CAESAREAN SECTIONS IN THE UNIVERSITY CLINICAL CENTER OF KOSOVO

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ABSTRACT

Introduction: As in most countries of the world also at Kosovo the rate of Cesarean section from year to year is increasing. **Aim:** The main purpose of this paper was to present the incidence of births completed by Cesarean section at the Clinic of Gynecology and Obstetrics of University Clinical Center of Kosovo in Prishtinë. **Material and methods:** This study is retrospective, namely its made by collecting epidemiological data from patients' histories that completed birth by Cesarean section for the period 2000-2006 in this clinic. **Re-**

sults and discussion: During this period, 14 maternal deaths were recorded during or after Cesarean section. Besides this, 14 lethal outcomes, the object of our study was 84 mothers which completed birth by Cesarean section and which are best used as a control group. The average age of mothers who died during or after Cesarean section was 32.1 years (SD \pm 4.9). Youngest in this group was 24 years old and oldest 42 years. While the average age of mothers from the control group was 30.6 years (SD \pm 5.9). Youngest was 19 and oldest 43 years, without significant difference. Most mothers included in the survey had more

than one indication for Cesarean section. The most frequent indication was PIH syndrome with 33.7% and previous Cesarean section in 32.7%. Then with the participation of 12.2% were abruption of the placenta and disproportion fetopelvic, 11.2% pelvica and placenta praevia presentation, 10.2% parturiens while other indications were much rarer with less than 10% participation. **Conclusion:** Based on this we can conclude that the risk of the Cesarean section is high.

Key words: Cesarean section, incidence, University Clinical Center of Kosovo.

1. INTRODUCTION

Over several decades, has come to a dramatic increase in the number of Cesarean sections performed across the world, especially in developed countries (1,2). The frequency of Cesarean section increased from 5% to 15%. However, the rate of births by Cesarean section still varies significantly in different countries and regions, in different hospitals, by the various factors such as social and economic health or individual factors, partly due to different perceptions of health workers and pregnant women about the benefits and risks of Cesarean section (3,4,5,6,7). Today, the frequency of completed births by caesarean section differs in different countries. According to statistics, it is highest in the U.S. or around 24%, and then in Canada about 20%, in Denmark about 13%, 10% in England and it is lowest in Japan – 7% (3).

According to the United States Department of Health and Human Services, Healthy People 2000, the annual birth rate by Cesarean section should be reduced to less than 15% and frequencies higher than 12% of Cesarean section is not positive, since the frequency of Cesarean section, generally does not contribute to reducing perinatal mortality. In some centers perinatal mortality has been reduced by 50% without increasing the frequency of Cesarean sections, but only by neonatal intensive care setting (1,5,6).

Progress in surgery, anesthesiology and transfusion has made relatively safe Cesarean sections, so it is often chosen as elective option for delivery (1,4,9,10,11,12,13,14,15,16,17,18,19). Historically, the majority of Cesarean sections are done because of obstetric complications or diseases (20,21,22).

Caesarean section is performed

in cases where vaginal birth is either impossible or would pre-dispose mother and fetus with risks. Some indications are clear and absolute (e.g. placenta previa, the disproportionate cephalopelvic), others are relative. In many cases is required a difficult decision to determine if Cesarean section or vaginal birth would be the best option. It is impossible to prepare a complete list of indications for Cesarean section, because there are plenty of obstetric complications that are resolved with the section. However, the most common indications are:

a) Absolute indications: involves absolute pelvic narrowness, abnormalities and other diseases of the genitals and the neighboring organs, situs transversus, centralis praeviae placenta, uteri rupture imminens, placenta abruption (severe cases), pre eclampsia, fulminate eclampsia, previous Cesarean section

and vulvovaginal herpes (23,24,25,26,27,28).

b) Relative indications: disproportion fetopelvine (after birth probation), placenta previa marginalis, lateralis (30%), circumvallata, pelvis osteomalasica, EPH gestosis, IUGR, acute fetal distress, diabetes mellitus according to White cl. BF, Aloimunismus, lien multiple fetuses with pathological status, primary uterine inertia, dystocia after coning of the uterus (28,29).

c) Extended indications: Abruptio placentae partialis, presentation. pelvinae, twin pregnancies, infertility, sectio iterativa, mioma, diabetes, pre eclampsia, hypertension, fetus weight of >3800 grams, a RAR >12h, IUGR etc. deflexive positions of the head and rotation anomalies, prolapsed umbilical cord, vasa praevia, cicatrices the uterus after caesarean section articulation ankylosis of the pelvis, hydrocephalus, condylomata acuminate in genital organs (28,29).

2. GOAL

The main purpose of this paper is to outline the incidence of Caesarean sections at Gynecology and Obstetrics clinic of University Clinical Centre of Kosovo in Prishtina.

Also other purposes of this research are investigate:

- The most common indications for caesarean section;
- The most common intraoperative and postoperative complications.

3. MATERIAL AND METHODS

This study is retrospective which involved two groups of patients.

a) Analyzed are all cases of pregnant women deaths during or after Caesarean section recorded at the Gynecology and Obstetrics clinic in

Year	No. of deliveries	Those by Caesarian section	Base Index	Ordinal Index
		N	%	
2000	39091	2931	7.5	100.0
2001	39578	3591	9.1	122.5
2002	35399	3656	10.3	124.7
2003	31932	3605	11.3	123.0
2004	30925	3816	12.3	130.2
2005	29056	4059	13.9	138.5
2006	28404	4659	16.4	159.0
Total	234385	26317	11.2	-

Table 1. Number of births in health institutions in Kosovo by year and grade for the birth by Caesarian section

Year	No. of deliveries	From them in Gynecology and Obstetrics Clinic
		N
2000	39091	12615
2001	39578	12773
2002	35399	12466
2003	31932	11271
2004	30925	11122
2005	29056	10491
2006	28404	10705
Total	234385	81443

Table 2. Number and percentage of births at Gynecology and Obstetrics clinic according to all births in Kosovo, during period 2000-2006 (> 500 g)

Year	No. of deliveries	Those by Caesarian section	Base Index	Ordinal Index
		N	%	
2000	12615	1832	14.5	100.0
2001	12773	1975	15.5	107.8
2002	12466	2044	16.4	111.6
2003	11271	1934	17.2	105.6
2004	11122	2000	18.0	109.2
2005	10491	2073	19.8	113.2
2006	10705	2433	22.7	132.8
Total	81443	14291	17.5	-

Table 3. Rate of caesarean births at Gynecology and Obstetrics clinic in Prishtina, during the period 2000 - 2006

Prishtina for the period 2000-2006.

b) By performing random stratification by year is selected sample of 84 patients, where the birth was completed by Caesarean section that has not ended in death.

Data on deaths besides the Gynecology and Obstetrics clinic were

taken from the Intensive Treatment Unit of Central Morgue Clinical Centre and the Institute of Pathological Anatomy.

The results are presented in tables and charts. Statistical parameters are computed from the index of structure, mean, standard deviation, while the testing of the results is made with Student's t-test and X2-test. Verification testing is done at the degree of $p < 0.05$ and $p < 0.01$.

4. RESULTS

In Maternity hospitals, Public health institutions in Kosovo for the period 2000-2006 were registered 234385 births. The highest number of births was registered in 2000 - 39091 births, while the smallest 28404 in 2006. During this period were registered 26317 (11.2%) births by caesarean section. Rate of births by Caesarean section has increased from year to year, in 2000 was 7.5% and in 2006 - 16.4%. On the basis of calculating the base index in 2006 compared with 2000 the number of births by Caesarean section increased by 59%. Largest increase in the number of Caesarean section as compared with the previous year we have recorded in 2001 when we had increase of 22.5% (ordinal index 122.5) (Table 1).

Increase in number of Caesarean sections is presented in Diagram 1.

Gynecology and Obstetrics clinic in Prishtina as the only tertiary level institution in Kosovo during this period has been overwhelmed with patients, either due to lack of secondary care hospital in Prishtina as well as due to the arrival of patients from other maternity hospitals. Of the total number of births 34.7% were performed at this Clinic (Table 2).

Given that one third of births in Kosovo were conducted at Gynecology and Obstetrics Clinic in Prishtina, our study aims to reduce morbidity and mortality in mothers who completed the delivery by caesarean section.

As shown in Table 3 the highest number of births at Gynecology and Obstet-

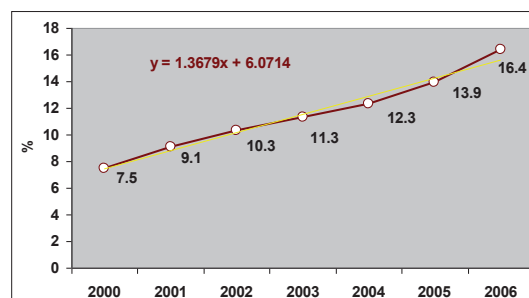


Diagram 1. Rate of caesarean sections in Kosovo in the period 2000-2006

Year	Total deliveries by Caesarean section	Dead patients	Letalitet in %
2000	1832	3	1,6
2001	1975	3	1,5
2002	2044	3*	1,0
2003	1934	0	0,0
2004	2000	2	1,0
2005	2073	3	1,4
2006	2433	0	0,0
total	14291	14	0,9

Table 4. Maternal mortality during or after caesarean section in Gynecology and Obstetrics clinic in Prishtina in the period 2000-2006

rics Clinic is recorded in 2000 - 12615 births, while the smallest 10491 in 2005. During the years 2000-2006 in this Clinic there was 14291 registered births by Cesarean section or average rate of Cesarean section was 17.5%. Rate of births by Cesarean

Indications of Caesarean section	Dead Patients n=14		Gr. Control n=84		Total n=98	
	N	%	N	%	N	%
Placenta previa	-	-	11	13.1	11	11.2
PIH syndrome	9	64.3	29	34.5	33	33.7
St.post s.c.	4	28.6	28	33.3	32	32.7
Abrupcio placentae	3	21.4	9	10.7	12	12.2
Liquor amni meconialis	1	7.1	6	7.1	7	7.1
Myoma uteri	-	-	1	1.2	1	1.0
Partus praetemporarius	1	7.1	-	-	1	1.0
Mors feti in utero	2	14.3	6	7.1	8	8.2
Presentatio pelvine	1	7.1	10	11.9	11	11.2
Parturiens	3	21.4	7	8.3	10	10.2
Preclampsio	2	14.3	-	-	2	2.0
Pneumonia aspirativa	1	7.1	-	-	1	1.0
Anaemia in gravis	1	7.1	2	2.4	3	3.1
St. eclampticus	3	21.4	-	-	3	3.1
VLC-capitis regio temporalis dex.	1	7.1	-	-	1	1.0
Primipara vetusta	1	7.1	5	6.0	6	6.1
Grav. ML	1	7.1	-	-	1	1.0
Haemorrhagia subarachoidalis	1	7.1	-	-	1	1.0
Oedema pulmonum	1	7.1	-	-	1	1.0
Graviditas prolongata	1	7.1	1	1.2	2	2.0
Asphyxio foeti	1	7.1	8	9.5	9	9.2
Oligohydroamnion	1	7.1	1	1.2	2	2.0
Praesentatio dorsoposterior	-	-	3	3.6	3	3.1
Caput succedaneum	-	-	1	1.2	1	1.0
Dysproportio fetu pelvine	-	-	12	14.3	12	12.2
Situs transversus	-	-	6	7.1	6	6.1
Strangulus funic. umbilic.	-	-	2	2.4	2	2.0
Macrosomia feti	-	-	2	2.4	2	2.0
Chorioamnionitis	-	-	1	1.2	1	1.0
Status post sterilitas primaria	-	-	5	6.0	5	5.1

Table 5. Indications for Caesarean section

section at Gynecology and Obstetrics clinic has been increasing from year to year, in 2000 it was 14.5% whereas in 2006 - 22.7%. On the basis of calculating the index base year 2006 as compared to year 2000 the number of births by caesarean section increased 32.8%. Largest increase in the number of caesarian section compared with the previous year we had in 2006 - 17.4% (117.4 ordinal index), while only in 2003 we had a decrease in the number of births by Cesarean section compared to the preceding year (year 2002) to 5.4% (ordinal index 94.6).

In Diagram 2 is presented the birth rate with Caesarean section at Gynecology and Obstetrics clinic in Prishtina during period of 2000 to 2006. Diagram shows the incensement trend in the rate of births by Cesarean section.

For the period 2000-2006 at Gynecology and Obstetrics clinic in Prishtina was recorded 14 maternal deaths during or after Caesarean section. In the years 2000, 2001, 2002 and 2005 were recorded three maternal deaths each year, in 2004 two and in 2003 and 2006 there was no cases of maternal death as consequence of Caesarean section. In 2002 one of the pregnant women underwent Caesarean section with lethal outcome in order to save the child (Table 4).

It should be emphasized that in

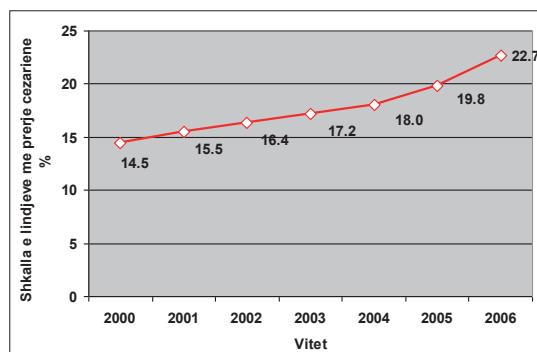


Diagram 2. Rate of caesarean births in Gynecology and Obstetrics clinic in Prishtina during the period 2000-2006

the group of mothers who died, two thirds had PIH as indication of a third syndrome and eclampsia or pre-eclampsia. In the group control there was no cases with eclampsia or pre-eclampsia (Table 5).

5. DISCUSSION

Over several decades, has come to a dramatic increase in the number of Caesarean sections taken across the world, especially in developed countries (1,2). The frequency of Caesarean sections increased from 5% to 15%. In maternity hospitals, public health institutions in Kosovo for the period 2000-2006 were registered 234385 births. The highest number of births was registered in 2000 - 39091 births, while the smallest - 28404 in 2006. During this period 26317 births were completed by Caesarean sections or the average rate of caesarean section rate was 11.2%. Rate of Caesarean births has increased from year to year; in 2000 it was 7.5% and 16.4% in 2006.

Today, the frequency of completing the birth by Caesarean section differs in different countries. According to statistics, the highest rate is in the U.S. - around 24%, then in Canada - about 20%, in Denmark about 13%, 10% in England and it is lowest in Japan - 7% (3,22,23).

According to the United States Department of Health and Human Services, Healthy people 2000, annual percentage rate of births by Caesarean section should be reduced to less than 15% and frequencies higher than 12% of caesarean section are not recommended, as the frequency increase does not contribute to reducing perinatal mortality (1,5,6,15,20).

In some centers has been reduced perinatal mortality by 50% without increasing the frequency of Caesarean section, only by setting neonatal intensive care (12,22).

Progress in Surgery, Anesthesiology and transfusion has made relatively safe Caesarean sections, so it is often chosen as elective option for delivery (1,4,12,19). Historically, most deliveries are made by Caesarean section due to obstetric complications or diseases (22).

According to the Sultan and Stanton suggestion that every pregnant woman has the right to request that her child is born with Caesarean section rises emotional and controversial issues. Jonson and associate in 1986 found that 10% of obstetricians would perform Caesarean section only because pregnant women wanted it, without any indication and that this percentage has grown more in recent years.

According to Francome and associates during last years women are likely to undergo caesarean section three times more than 20 years ago. This is attributed to many factors, not only improving the surgical technique and anesthesia, but also the fear of judgment (30,33).

Helminski (1997) (31) notes that some pregnant women feeling that Caesarean section is "the best way to give birth to a child". This is a view that is created by some obstetricians.

Caesarean section is followed by morbidity and increased maternal and neonatal mortality, followed also with increase of costs of health care.

Although a rare phenomenon that pregnant women in developing countries die as consequences of Caesarean section, new research conducted in France showed that Caesarean section triples the risk of maternal death compared with vaginal birth. These data are from the study led by Dr. Catherine Deneux (30) at Thareux Maternal Tenon Hospital in Paris in September 2006 and published in the journal "Obstetrics & Gynecology." The author emphasizes that there is a steady increase in the rate of birth by caesarean section in developed countries and that some professionals propose

Caesarean section as first choice for the birth of normal pregnancy, but pregnant with the increase of risk for maternal death should be account of the clinician and pregnant when risk is balanced and benefits of vaginal delivery compared with the one of Caesarian (33). At global level the most common causes of maternal death are direct bleeding in pregnancy, birth and after birth, infections, the consequences of unsafe abortion, hypertension in pregnancy and births obstructions (1,3,15,19,23,24,25,26,27).

Caesarean section is performed in cases where vaginal birth is either impossible or would pre-dispose mother and fetus with risks. Some indications are clear and absolute (such as placenta previa, the disproportionate cephalopelvic), others are relative.

However, the most frequent indications were: disproportion cephalopelvic, no dominance inertia of the uterus, placenta previa, premature come off of placentas with normal insertion, distocic appearance, pre-eclampsia, eclampsia, prolapse of umbilical cord, diabetes, eritroblastosis and other dangerous situations, fetal suffocation, cervical carcinoma, cervical distocia, tumors of birth canal, the vaginal plastic surgery performed earlier, the genital herpes, severe heart disease and other debilitating conditions, in which vaginal birth would bring greater risks than cutting sections.

Indications for cesarean section at Clinic of Gynecology and Obstetrics in Prishtina are similar to data of other authors. Most patients included in the survey had more than one indication for Caesarean section.

The most common indication is PIH syndrome with 33.7% participation and previous Caesarean section with 32.7% participation. Then with the participation of 12.2% are abruptio placenta and feto disproportion pelvinea, 11.2% placenta praevia pelvinea presentation in 10.2% parturiens while other indications are much rarer with participation below 10%. So, the five most frequent indications are: PIH syndrome, previous Caesarean section, abruptio the

placenta, disproportion feto-pelvina and placenta previa.

Maternal morbidity is also increased for births by Cesarean section. Postoperative complications like wound infection, pain, uterine infections, deep venous thrombosis, pyrexia, the need for urinary catheter and blood transfusion are quite frequent. Thus, only 9.5% of women with Caesarean section in Hilton's research had no post-surgical complications. Long term problems can include forming adhesions, intestinal obstruction, urinary bladder damage and increased risk for accrete placenta, dehiscence the suture in future pregnancies. Caesarian section also causes psychosocial complications as a longer stay in hospital on that occasion the woman is separated from family and other children, separation from the newborn, then she has a sense of "being sick", which also affects the lack of desire for breastfeeding the baby.

According to complications during surgery, 34.7% of patients included in our survey have had complications. Complications by type were different between the two groups. The patients with lethal outcome had 2 complications where it should be hysterectomies - total subtotal 3 cases; two cases have hemorrhagic shock during the surgery and 3 cases with profuse metrorragy. In the control group, type the number of complications was much smaller.

Several authors published in literature presents facts that neonatal morbidity is increased by performing birth by Caesarean section, caused by respiratory distress syndrome and as tachypnea. This risk is higher for births before 39 weeks of gestation. Also during delivery by Cesarean section baby can be cut with a scalpel and dislocation of joints can occur.

Based on this we can conclude that the birth by Caesarean section have high risk.

Conflict of interest: none declared

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