

Frequency of Premature Births in Twin Pregnancies in Kosovo

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Abstract

Aim: To determine the frequency of premature births in twin pregnancies.

Methods: This was a retrospective study, of twin births, undertaken from December 2013 back to January 1, 2013, in Obstetrics and Gynecology Clinic / University Clinical Centre of Kosovo.

Results: Out of 10,286 the births in Obstetrics and Gynecology Clinic, 270 (2.63%) were twin pregnancies. The incidence of twin pregnancies was; 26.2 twins per 1,000 births. Fifty three percent (n=143) of infants were born at term, while 47% (n = 127) of infants born preterm or before 37 weeks of gestation. Thirty per cent of the twin pregnancies were conceived through the use of assisted reproduction technology, while 70 percent were by spontaneous conception. The average maternal age was 30.8 years, while the average gestational age at birth was 32.9 weeks. About 7.8 % (n=10) were born before week 28 gestational, 23.6 % (n=30) before 32 weeks, 68.6 % (n=87) were born between weeks 32-36+6 gestation. Averages birth weight of the premature twins was 2010 grams, 8.9% (n=24) were born with less than 1000 grams, 14.1% (n=38) \leq 1500 grams, 53.7% (n=145) \leq 2500, and 23.3 % (n=63) \geq 2500 grams. Sixty three percent were delivered through section caesarean, while 37 % were through vaginal delivery. The Apgar test scoring average for the group: Gem I was 6.5, while for group: Gem II was 6.4. The most common pathologies associated with premature births were: preterm premature rupture of membranes (27.5%), status post section caesarean with pain (13.4%), maternal hypertensive disease (12.5%), death of the fetus in utero (10%), and cervical insufficiency (9.5%), and other pathologies in small percentages: IUGR, umbilical cord accidents, abruption placenta, polyhydramnios etc.

Conclusions: The frequency of 47% premature births in twin pregnancies in Kosovo, was very high. Sixty three percent of the preterm twin pregnancies were delivered through section caesarian. The average gestational age at birth was 32.9 weeks, while averages birth weight of the premature twins was 2010 grams.

Keywords: Preterm births; Twin pregnancies; Kosovo

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Introduction

Twin pregnancy is defined as a pregnancy in which two embryos develop in the uterus at the same time. It is dizygotic twins when the twins are derived from two zygote that develops from a two fertilized oocytes and monozygotic twins when they are derived from one zygote that develops from a single fertilized oocyte. Premature birth is defined as birth that occurs before 37 completed weeks of gestation, regardless of birth weight. There

is a strong link between the multiple pregnancies and the risk of premature birth. Premature birth risk increases with the number of fetuses, suggesting overstrain uterine and fetal signal as potential road to early onset of labor. In the world, approximately 50 percent of women with twin pregnancy are born before 37 weeks [1-3]. Besides spontaneous premature birth, multiple pregnancies are often complicated by medical and obstetric disorders that lead to premature birth. Intrauterine growth restriction, fetal abnormalities, hypertension, abruption the

placenta and fetal compromise were more frequent in multiple pregnancies and the complications increases with the number of fetuses [4]. Newman and Luke reported that multiple pregnancies constitute 2.9 percent of all birth (USA) [5]. The incidence of twin pregnancies was; 26.2 twins per 1,000 births [6].

The purpose of this research is to determine the frequency of premature births in twin pregnancies during 2013 in Obstetrics and Gynecology Clinic / University Clinical Centre of Kosovo.

Methods

Study design

This was a retrospective study of the frequency of preterm deliveries in twin pregnancies was undertaken from December 2013 back to January 1, 2013, in Obstetrics and Gynecology Clinic / University Clinical Centre of Kosovo. Data on characteristics such as: average maternal age, average gestational age at birth, twinning, the average weight of babies at births and mode of delivery was collected from the birth and obstetric theater registers or patient's folders, and analyzed. Obstetrics and Gynecology Clinic provides tertiary medical care, the staff consists of 50 professionals, with over 350 beds, and delivery rate of annual births 10286 east.

Sample size and data collection

The present study assessed data on births that were delivered during 2013, in Obstetrics and Gynecology Clinic / University Clinical Centre of Kosovo, which provides tertiary medical care. The number of women who were born in 2013, and participated in the study was; 10286. The present study used information from patient's registers to year 2013.

The total number of births during 2013, the number of women that have twin births, the number of women who were born by cesarean section were assessed. The other characteristics evaluated were: average maternal age, average gestational age at birth, twinning, the average weight of babies.

Statistical analysis

Statistical analysis was performed using the programs for

statistical analysis Medcalc. (medcalc.net). Sum tests were used to compare differences in categorical variables.

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, 5/2013). All women included in the study provided written informed consent.

Results

Out of 10,286 the births in Obstetrics and Gynecology Clinic, 270 (2.63%) were twin pregnancies. The incidence of twin pregnancies was; 26.2 twins per 1,000 births. Fifty three percent (n=143) of infants were born at term, while 47% (n = 127) of infants born preterm or before 37 weeks of gestation (OR 0.8, 95% CI: 0.6 – 1.1).

Thirty per cent of the twin pregnancies were conceived through the use of assisted reproduction technology, while 70 percent were by spontaneous conception (Comparison of proportions: Difference 40 %, 95% CI 31.7 to 47.6, Chi-squared 84.8, DF=1, Significance level $P < 0.0001$).

The average maternal age was 30.8 years, while the average gestational age at birth was 32.9 weeks. About 7.8 % (n=10) were born before week 28 gestational, 23.6 % (n=30) before 32 weeks, 68.6 % (n=87) were born between weeks 32-36+6 gestation (**Table 1**).

Averages birth weight of the premature twins was 2010 grams, 8.9% (n=24) were born with less than 1000 grams, 14.1% (n=38) ≤ 1500 grams, 53.7% (n=145) ≤ 2500 , and 23.3 % (n=63) ≥ 2500 grams (**Table 2**).

Sixty three percent were delivered through section caesarean, while 37 % were through vaginal delivery. The Apgar test scoring average for the group: **Gem I** (the first twin) was 6.5, while for group: **Gem II** (the second twin) was 6.4. The most common pathologies associated with premature births were: preterm premature rupture of membranes (27.5%), status post section caesarean with pain (13.4%), maternal hypertensive

Table 1 The number of women with twin pregnancy who were born prematurely or before meeting the 37 weeks of pregnancy.

Weeks gestation	Frequency	Percentage	Significance level
≤ 28 weeks	10	7.8 %	OR; 0.08, 95 % CI: 0.04 to 0.17. $P < 0.0001$
≤ 32 weeks	30	23.6 %	OR; 0.3, 95 % CI: 0.19 to 0.49. $P < 0.0001$
32-36+6 weeks	87	68.6 %	OR; 2.1, 95 % CI: 1.3 to 3.4 $P < 0.0007$
Total	127	100 %	

Table 2 Birth weight of all twins.

Weight of twins	Frequency	Percentage	Significance level
≤ 1000 grams	24	8.9%	OR; 0.09, 95 % CI: 0.06 to 0.15. $P < 0.0001$
≤ 1500 grams	38	14.1%	OR; 0.16, 95 % CI: 0.11 to 0.24. $P < 0.0001$
≤ 2500 grams	145	53.7%	OR; 1.1, 95 % CI: 0.8 to 1.5 $P = 0.3$
≥ 2500 grams	63	23.3%	OR; 0.3, 95 % CI: 0.2 to 0.4. $P < 0.0001$
Total	270	100%	

disease (12.5%), death of the fetus in utero (10%), and cervical insufficiency (9.5%), and other pathologies in small percentages; Intrauterine Growth Restriction, Umbilical cord accidents, Abruptio placenta, Polyhydramnios etc.

Discussions

In the Kosovo, during 2013, 2.78 percent were multiple pregnancies, of these 2.63 percent twin, 0.15 percent triplet pregnancy, there was not quadruplet pregnancy [1]. Newman and Luke reported that multiple pregnancies constitute 2.9 percent of all birth (USA) [5]. In the USA, in 2002 were 31.1 twins per 1000 births [2]. The incidence of twin pregnancies was; 26.2 twin per 1,000 births [6]. In Kosovo, in 2013, was; 47 percent of infants born preterm or before 37 weeks of gestation. In the world, approximately 50 percent of women with twin pregnancy are born before 37 weeks [3]. Besides spontaneous premature birth, multiple pregnancies are often complicated by medical and obstetric disorders that lead to premature birth. Intrauterine growth restriction, fetal abnormalities, hypertension, abruptio the placenta and fetal compromise were more frequent in multiple pregnancies and the complications increases with the number

of fetuses [4]. The average maternal age with twin pregnancies resulted to be 30.8 years, while the average gestational age at birth was 32.9 weeks pregnant.

Conclusions

The frequency of 47% premature births in twin pregnancies in Kosovo, was very high. Sixty three percent of the preterm twin pregnancies were delivered through section caesarian. The average gestational age at birth was 32.9 weeks, while averages birth weight of the premature twins was 2010 grams. The Apgar test scoring average for the group: Gem I was 6.5, while for group: Gem II was 6.4. Thirty per cent of the twin pregnancies were conceived through the use of assisted reproduction technology, while 70 percent were by spontaneous conception. The average maternal age was 30.8 years.

Authors' Contributions

For this manuscript, there is no other author who has contributed, to qualify as author.

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