

Frequency and method of term and preterm twin deliveries and their vitality in general Hospital Novi Pazar in period 2009 – 2013

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Abstract

The aim of this paper is to analyze the method of term and preterm deliveries of twin pregnancies and vitality of twins at birth. The development of two fetuses in the uterine cavity at the same time is considered a twin pregnancy. Today, due to more often examination and proper treatment, 50% of twin pregnancies end in preterm delivery. We used retrospective study to analyze the delivery method and vitality of twins born term and preterm at Gynecology and Obstetrics Department of General hospital Novi Pazar in the five-year period, from 2009 to 2013. There were 10.489 deliveries in the said five-year period. Out of this number, 118 pregnancies were twin pregnancies and they amount to 1.12% of all deliveries which is in line with world's standards. About 73% of deliveries were term and 27% were preterm twin deliveries. The analysis of twin vitality showed that first-born twins at both term and preterm deliveries are more vital and in better condition. Second-born twins are generally born with lower Apgar score. Due to liberalization for caesarean section indication, a great number of twin deliveries end in caesarean section.

Key words: twin pregnancy, delivery, vitality of twins.

Učestalost i izbor metoda porođaja kod terminskih i pretermijskih blizanaca u Opštoj bolnici Novi Pazar tokom 2009 - 2013.

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Apstrakt

Cilj ovog rada je da analizira metodu porođaja terminskih i pretermijskih blizanačkih trudnoća i proceni vitalnost blizanavca na rođenju. Razvoj dva fetusa u materičnoj šupljini istovremeno se smatra dvostrukom trudnoćom. Danas, zbog češćih pregleda i pravilnog lečenja, 50% dvostrukih trudnoća završava sa prevremenim porođajem. Koristili smo retrospektivnu studiju kako bismo analizirali način porođaja i vitalnost blizanacana Odeljenju za ginekologiju i akušerstvo Opšte bolnice Novi Pazar u petogodišnjem periodu od 2009. do 2013. godine. U navedenom petogodišnjem periodu bilo je 10.489 porođaja. Od ovog broja, 118 trudnoća su bile dvostruke trudnoće i one čine 1,12% svih porođaja što je u skladu sa svetskim standardima. Oko 73% porođaja je bilo terminsko, a 27% su bile blizanačke trudnoće. Analiza je pokazala da su prvi rođeni blizanci u oba bili vitalniji i u boljem stanju. Drugi blizanci su uglavnom rođeni sa nižim rezultatom Apgar-a. Zbog liberalizacije za indikaciju carskog reza, veliki broj dvostrukih trudnoćase završava carskim rezom.

Ključne reči: dvostruka trudnoća, porođaj, vitalnost blizanaca.

Introduction

The development of two fetuses in the uterine cavity at the same time represents a twin pregnancy. On average, there is one twin pregnancy to 80-90 deliveries. Twin pregnancy is characterized by:

- A large number of complications related to gestation and delivery,
- Often operative delivery,
- Several times higher fetal perinatal morbidity
- Genetic testing of twins depending on the external factors, constitution and hereditary factors.

Frequency of twin pregnancies is about 1.15% compared to all other pregnancies.

It should be particularly stressed that earlier 75-80% of multiple pregnancies ended in preterm delivery, gestation shorter than 37wg. With introduction of strict examination and proper treatment, preterm deliveries of this type are significantly lowered and amount to about 50% for twin pregnancies. The duration of pregnancy proportionally decreases with the number of fetuses. Singleton pregnancy lasts 39wg on average, pregnancy with two fetuses 35wg, pregnancy with three fetuses 33wg, and pregnancy with four fetuses 29wg. Neonatal mortality in preterm born twins is higher for pregnancies shorter than 32wg, and twin weight lower than 1500 grams. Death of twins is higher with smaller weight (1000 gr – about 70% mortality, 600 gr - about 80%). Taking into account that about 50% of twin pregnancies today end in preterm delivery, it is especially important to pay attention to the early diagnosis, better monitoring and optimal treatment of twin pregnancies. A pregnant woman needs to be informed about pregnancy and delivery process. Twin pregnancy delivery mostly ends vaginally, spontaneously, or with obstetrics interventions. However, in the last several years, indications for caesarean section are becoming more liberal and less selective so that preterm delivery of twin pregnancy often ends in caesarean section.

Vaginal delivery of twin pregnancy is characterized by slow and long-lasting dilation phase (15-20h) because of overstretched uterine musculature and transition of strength to the other fetus. Dilation in preterm deliveries, with preterm premature rupture of membranes, has spasmodic course, which always demands quick and proper therapy (analgesics, sedation, spasmolytic).

Expulsion is generally easy and quick, especially when fetus weight is lower and when the first fetus is in vertex position. Gynecologist's role in the first twin vertex position delivery is mostly "passive", while the delivery of the second twin demands active participation due to frequent complications. The delivery of the first twin mostly has the same mechanism as the delivery in one fetus pregnancy.

The delivery of the second twin may be easy and simple, but it could also be complicated. After the expulsion of the first twin, it is necessary to perform amniotomy, determine the position and presentation of the second twin by examination and use the outside hand to fix the head or pelvis into the pelvic entrance. If the second twin tones are normal, there will be expulsion in 20-30 minutes. If the tones are bradycardic, presentation inadequate, if severe bleeding occurs, the delivery ends by the internal rotation and fetus extraction. With head obstruction, the delivery is terminated by forceps or smaller doses of syntocinon. The delivery of the second twin may be with difficulties if the second twin is heavier than the first and if the period from expulsion is longer. If the first twin is in the upright position and the second in transverse lie, the first one is born with usual mechanism and the transverse lie one by internal rotation and extraction.

Caesarean section delivery

Absolute indications for caesarean section are:

1. Umbilical cord prolapse of the first twin,
2. Transverse position of twins,
3. Pelvic presentation of the first or both twins,

4. Twin collision
5. Placental abruption.

Relative indications for caesarean section are: bigger and heavier second twin who is, same as the first twin, in breech presentation, EPH gestosis, asphyxia. In the last few years, there is a tendency for twin pregnancies with twins weighing between 1500 and 2000 grams to be terminated in caesarean section.

The aim of this paper is to analyze frequency, term and preterm twin delivery method and twin vitality at birth.

Materials and methods

We used retrospective study to analyze frequency, twin pregnancy delivery method and vitality of twins born term and preterm at Gynecology and Obstetrics Department of General hospital Novi Pazar in the five-year period, from 2009 to 2013.

We analyzed: Total number of deliveries and total number of twin deliveries, ratio of the number of twin pregnancies ended in term to preterm deliveries, method of term and preterm twin deliveries, twin vitality, i.e. Apgar score, of term and preterm twins, as well as, vitality of twin I and twin II from term and preterm twin delivery.

Results

In the five-year period, from 2009 to 2013, there were 10.489 deliveries in total. Out of this number, there were 118 twin deliveries or 1.12%. The frequency of twin pregnancy is about 1.15% compared to all other pregnancies (Table 1.)

Year	Total number of deliveries	Total number of twin deliveries
2009	2170	29
2010	2174	17
2011	2030	27
2012	2115	24
2013	2000	21
Total	10 489	118 1.12%

Table 1. Ratio of the total number of deliveries to the total number of twin deliveries

There were 86 twin pregnancies ended in term delivery, which is 0.82% of the total number of deliveries, i.e. 72.9% of the total number of twin deliveries. There were 32 preterm twin deliveries, which makes 0.3% of the total number of deliveries, i.e. 27.1% of the total number of twin deliveries. The largest number of twin deliveries ended in term delivery while there were significantly fewer twin pregnancies which ended in preterm delivery (Table 2.).

Year	Total number of deliveries	Total number of twin deliveries	Number of twin deliveries ended in:					
			1. term delivery			2. preterm delivery		
2009	2170	29	24			5		
2010	2174	17	11			6		
2011	2030	27	19			8		
2012	2115	24	16			8		
2013	2000	21	16			5		
Total	10 489	1.12% 118	0.82%	86	72.9%	0.30%	32	27.1%

Table 2. Ratio of the number of twin pregnancies ended in term to preterm deliveries

There were 86 twin pregnancies in total which ended in term delivery. Out of that number, 46 pregnancies or 53.5% ended in vaginal delivery, while 40 pregnancies or 46.5% ended in caesarean section (Table 3.).

Year	Number of term twin deliveries	Vaginal		CC	
2009	24	16		8	
2010	11	7		4	
2011	19	6		13	
2012	16	8		8	
2013	16	9		7	
Total	86	46	3.5%	40	46.5%

Table 3. Method of term and preterm twin deliveries

The total of 32 twin pregnancies ended in preterm delivery (Table 4.). Out of that number, 50% ended in vaginal delivery and 50% ended in caesarean section. We can conclude that there were insignificantly more term twin pregnancies which ended in vaginal delivery.

Year	Number of preterm twin deliveries	Vaginal	CC
2009	5	2	3
2010	6	4	2
2011	8	4	4
2012	8	4	4
2013	5	2	3
Total	32	16 50%	16 50%

Table 4. The total of 32 twin pregnancies ended in preterm delivery

Apgar score at birth of the first term twin is higher, on average, from Apgar score of the second term twin, which implies that the first twin is in better condition at birth, more vital, i.e. the second twin is more endangered at the delivery (Table 5.).

Year	Average Apgar score	
	I twin	II twin
2009	8.75	8.58
2010	8.64	8.64
2011	8.47	8.32
2012	8.56	7.00
2013	8.62	8.56
Average Ap	8.61	8.22
Average Ap for both twins	8.415	

Table 5. Twin vitality, i.e. Apgar score, of term and preterm twins

Average Apgar score of the first and second preterm twin in the mentioned five-year period is almost the same which means that preterm twins are born with the same Apgar score i.e. are of the same vitality (Table 6.).

Year	Average Apgar score	
	I twin	II twin
2009	7.4	7.0
2010	7.33	7.16
2011	7.87	8.12
2012	7.00	7.75
2013	8.4	7.8
Average Ap	7.6	7.56
Average Ap for both twins	7.58	

Table 6. Average Apgar score of the first and second preterm twin

Term twins are significantly more vital, i.e. with significantly higher Apgar score in comparison to preterm twins. Also, first-born twins, both from term and preterm pregnancies, are on average more vital than second-born term and preterm twins. Highest vitality is noticed in the first term twins, and lowest in the second preterm twins.

Discussion

The development of two fetuses at the same time in the uterine cavity is considered a twin pregnancy. Today, one twin pregnancy occurs in 80-90 deliveries on average. Frequency of twin pregnancies is about 1.15% in the world. Frequency of twin pregnancies in our country in the said five-year period was 1.12% which is in line with world's standards. Twin pregnancies are considered high-risk pregnancies due to a large number of complications during gestation and delivery, often operative delivery, higher neonatal morbidity and higher mortality, especially with preterm born twins. In the analyzed five-year period, there were 10.489 deliveries. Out of the total number of deliveries, 118 pregnancies were twin pregnancies which is in line with world's trends and gives frequency of 1.12%. Out of the total number of twin pregnancies, 86 pregnancies or 73% ended in term delivery, while 32 pregnancies i.e. 23% ended in preterm delivery.

Significant number of term twin deliveries, 53.5%, ended vaginally while 46.5% ended in caesarean section. Preterm twin deliveries ended vaginally in 50% of the cases, and in caesarean section in 50%. Today, we could say that every delivery of the first time mother with twins, term or pre term, with breech or leg position of the first twin, ends in caesarean section. Vitality of twins is not the same. First-born twins, term or preterm, have better Apgar score at birth, which implies that they are more vital, in better condition. Second-born twins have lower Apgar score on average, are less vital or better said they are in worse condition at birth. The delivery of the second twin, term or preterm, lasts longer on average, they are in poorer condition and their delivery often ends operatively. The best score at birth is noticed with first-born twins from term pregnancies and the worst for second-born twins from preterm pregnancies. The largest number of twin pregnancies ends in 35wg.

Conclusion

Twin pregnancies which end in term and preterm delivery, in comparison to the total number of deliveries

in the five-year period from 2009 to 2013, make 1.12% of all deliveries. Frequency of twin pregnancies in the total number of deliveries is 1.15%. Significant number, 54%, of term twin pregnancies ended vaginally in 37wg, while 46% ended in caesarean section. On the other hand, 50% of preterm twin pregnancies ended vaginally, and other 50% in caesarean section which is in line with world's trends. Indications for caesarean section were mostly breech or leg position of the first twin. Great number of pregnancies with breech position of the first twin and breech position of the second twin ended vaginally, which is not in trend today. Now, all I/R with breech presentation, singleton or multiple pregnancies, end in caesarean section. First-born twins are more vital, in better condition with higher Apgar score. Second-born twins are in poorer condition. Their Apgar score is lower on average, i.e. they were in poorer condition at birth. The delivery of the second twin is often with complications and ends operatively. Preterm twin pregnancies usually end in 35wg. Key indications for preterm twin delivery are PPROM, EPH gestosis, asphyxia.

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