



CODEN [USA]: IAJPB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3519815>Available online at: <http://www.iajps.com>

Research Article

**OUTCOME OF PRE-TERM BIRTH OF NEONATES IN TWIN
PREGNANCIES AND ASSOCIATED OBSTERIC PARAMETERS**¹Dr Noor ul Huda Zahid, ²Dr Navaira Zahid, ³Dr Sanea Shahzad¹Punjab Medical College Faisalabad.**Article Received:** August 2019**Accepted:** September 2019**Published:** October 2019**Abstract:**

Objective: The aim of this research work is to record the outcome of pre-term deliveries in twin pregnancies to examine the association of perinatal and obstetric features with this outcome.

Methodology: This was a retroactive research work which carried out on the data collected from one hundred pre-term twins' child births in Department of gynecology of Allied Hospital Faisalabad. We collected the data from the clinical files of 60 females with pregnancy who gave pre-term birth of twin babies and we analyzed that data. We noted the description of feto-maternal outcome, obstetric features, data of sonography, indication for CS (Cesarean Section), weight of baby at the time of birth, scores on Apgar scale, circumference of the head, the length of the umbilical cord length and total weight of placenta of all the patients.

Results: Mean age of the females with the pregnancy was 26.78 ± 4.38 years and period of pregnancy according to ultrasound was 31.90 ± 2.60 weeks. There was an influence on Apgar scores at first minute by the weight of the body of fetal, duration of pregnancy period and height and circumference of the head. No variable among them displayed any significant impact on Apgar scores at fifth minute.

Conclusion: There is a need of efforts to obtain improvements of the gestational age till child birth in follow-up pre-term of twins. A well-organized algorithm with distinct prominence is in need to standard the suitable strategy for its management.

Keywords: Pre-Term, Management, Apgar Scores, Pregnancy, Obstetric, Cesarean Section, Perinatal.

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Please cite this article in press Noor ul Huda Zahid et al., *Outcome of Pre-Term Birth of Neonates in Twin Pregnancies and Associated Obsteric Parameters.*, Indo Am. J. P. Sci, 2019; 06(10).

INTRODUCTION:

There is heavy increase in the twin pregnancies in whole world with the improvement of the mean age at first pregnancy. Twin pregnancies contain about 2.0% to 3.0% live twin births. The deliveries with pre-term is very serious issue for the normal routine obstetric activities. Different publications have confirmed that delivery through Cesarean Section may reduce the morbidity for pre-term and term second twins. But the deficiency of the information about the fetomaternal condition at the time of admission and various indications for the mode of delivery. The present information is not enough to give recommendations for the ideal delivery route, through vagina or through cesarean section. There is a discussion on the risks of rates of high morbidity and mortality associated to the anomalies of delivery through vagina in pre-term twin pregnancies. This is also a serious issue for 2nd twins because of high possibility of the hypoxia after maneuvers of delivery, prolapse of cord or premature separation of placenta.

A current Cochrane systematic analysis concentrating on the best delivery mode for pre-term babies resulted that enlisting problems are likely to make a randomized research work on this topic is not possible. In this research work, the aim was to record the outcomes of neonates of pre-term birth in the twin pregnancies and to examine whether obstetric features have association with the medical outcomes.

METHODOLOGY:

This retroactive research work carried out in the Department of Gynecology of Allied Hospital Faisalabad. The ethical committee of the institute gave the permission to conduct this research work. We analyzed the data of the 60 pregnant females who gave pre-term birth to twins. The patients with the restriction in the fetal growth, placenta Previa, long

duration in the delivery and identification of any single twin with malformation were not the part of this research work. We measured the period of pregnancy with the last date of the menses. As well ultrasound in the first three months of pregnancy. The administration of the tocolytics carried out in the patients with no verdicts of the chorioamnionitis. We gave the anti-biotherapy for the pre-mature membrane's rupture and pregnant with pre-term labor usually obtained corticosteroids for the promotion of the maturation of the fetal pulmonary.

A senior obstetrician handled the all twin deliveries through vagina as well as cesarean section. The duration of pregnancy, maternal age, sex, delivery route, indications for Cesarean Section, and weight of the baby at the time of the birth, height, circumference of the head, weight of placenta, scores of Apgar at first and fifth minutes after the delivery and total umbilical cord's length were in records. The direct measure of the perinatal morbidity carried out with the scores of Apgar. SPSS V.20 was in use for the analysis of the collected information. Kolmogorov-Smirnov method was in use for the analysis of the normal distribution of the data. Percentage were in use for the presentation of the categorical data. P value of less than 0.050 was the significant one.

RESULTS:

An outline of the obstetric traits is present in Table-1. The mean maternal age was 26.78 ± 4.38 years. The average gestational age was 31.90 ± 2.60 weeks. CS was in use for the deliveries in 92.28% patients, whereas delivery through vagina took place in 3.68% females. Weight of fetal, gestational age, circumference of head, birth weight, total length of the umbilical cord, height, weight of placenta as well as Apgar scores are present in Table-1.

Table-I: Baseline Descriptive Maternal And Perinatal Data In Our Series Of Preterm Twins

Variable	Mean \pm SD	Range (Min - Max)
Maternal age (years)	26.78 \pm 4.38	(12-52)
Gestational age f(weeks)	30.78 \pm 2.78	(23-34)
Gestational age §(weeks)	31.90 \pm 2.60	(22-34)
Fetal weight (grams)	1777.00 \pm 336.00	(128-3058)
Height (cm)	43.78 \pm 30.68	(22-272)
Head circumference (cm)	28.38 \pm 2.58	(18-35)
Placental weight (grams)	388.38 \pm 209.48	(278-1100)
Umbilical cord length (cm)	32.48 \pm 5.8	(18-65)
Route of C/S delivery (n, %)	81.00 \pm 92.28	-
Vaginal	3.00 \pm 3.68	-
Gender (n, %) Male	89.00 \pm 49.68	-

Female	83.00 ±46.28	-
Apgar ¹ 7-10 (n, %)	111.00 ±71.38	-
4-6 (n, %)	29.00 ±18.8	-
0-3 (n, %)	8.00 ±4.48	-
Apgar ⁵ 7-10 (n, %)	143.00 ±92.18	-
4-6 (n, %)	1.00 ±0.58	-
0-3 (n, %)	6.00 ±3.18	-

The association among age of female, weight of fetal at the time of birth and Apgar scores on first and fifth minutes is present in Table-2. The examination of the data showed that scores of Apgar at first minute had influence of birth weight of fetal.

Table-II: Impacts Of Maternal Age And Fetal Weight On Apgar Scores At 1st And 5th Minutes

Variable	Maternal Age (Years)			Fetal Weight (Grams)			
	5-8	2-4	0-1	5-8	2-4	0-1	
Apgar ¹	Mean ±SD	26.4 ±4.6	25.5 ±4.2	27.1 ±2.3	1822.1 ±262.1	1511.4 ±275.1	1436 ±550.4
	p Value	0.6210			0.0008		
Apgar ⁵	Mean ±SD	26.3 ±4.5	27.0 ±1.3		1744.5±311.1	1516.7 ±531.6	
	p Value	0.5250			0.1510		

(For Apgar at 5th minute, scores between 0-1 and 2-4 were combined in order to achieve the sufficient number of patients needed for statistical analysis).

Table-3 shows the gestation age, circumference of head and height appeared to affect the scores of Apgar at first minute.

Table-III: Impacts Of Gestational Parameters On Apgar Scores At 1st Minute

Variable	Apgar ¹			p Value
	3-6	2-2	0-1	
Gestational age f (weeks)	30 – 0.1	28 – 1.3	28 – 2.1	0.0316
Gestational age§ (weeks)	28.0 - 1	27 – 1	27 - 1.1	0.0006
Height (cm)	20 – 2	39 – 1	36- 8.4	0.0036
Head circumference (cm)	27 - 1	25 - 2	25.1 – 1.1	0.0106
Placental weight (g)	328 – 266	200 – 158	516 - 236	0.3606
Umbilical cord length (cm)	31 - 4	28 - 4	9.1 - 8.3	0.908

The delivery route and sex did not show an important impact on Apgar scores at first minute (Table-4). There were no impacts of other variables on the Apgar scores at first minute (Table-4).

Table-IV: Impacts Of Gestational Characteristics On Apgar Scores At 5th Minute

Variable	Apgar ⁵		p Value
	5-8	0-4	
Gestational age, Last menstrual (weeks)	32 – 2	31 - 2.1	0.2128
Gestational age, Ultrasound (weeks)	30.0-1.2	29.0-4.0	0.818
Height (cm)	42.3	39 – 9	0.2198
Head circumference (cm)	29 - 1	28 - 2.3	0.9548
Placental weight (g)	558 -268	400 - 335	.0 0.548
Umbilical cord length (cm)	32 -6	33 - 6	0.3468

For Apgar scores at 5th minute, scores between 0-3 and 4-6 were combined in order to achieve the sufficient number of patients needed for statistical analysis.

In the same manner, sex of the baby and delivery route had no impact on the Apgar scores at fifth minute. The babies born after greater than thirty-two weeks of gestation showed good Apgar scores at first minute and at fifth minute as compared to the first born twins delivered after less than thirty-two weeks of gestation.

DISCUSSION:

The finding of this research work yielded that progression of age of gestation is very crucial to obtain satisfactory rates of development of fetal and good post-birth Apgar scores. Specially, scores of Apgar at the very first minute are heavily prone to be affected by different perinatal variables. In the year of 2006, 58.0% twin births in USA were pre-term and weight of the babies was less than 2.5 kg. The examination through ultrasound is very vital for the determination of chronicity and amnion city as well as for the diagnosis of the abnormalities in the twin pregnancies. Early identification of the risk factors and proper administrative measures have the ability to reduce the possibility of adverse outcome of the pregnancy. Twin gestations are highly expected to be delivered pre-term in comparison with the singleton gestation. Transvaginal cervical size or the level of the fibronectin in fetal can be used to discriminate the pre-term pregnancies. The regular usage of the tests for diagnosis in twin gestations cannot reduce the frequency of the pre-term birth.

One very important intrusion of the past was the utilization of the prophylactic oral beta-mimetic to decrease the prevalence of the pre-term birth in twin pregnancies. Some prophylactic intrusions like fully bed rest and uterine monitoring at regular basis were no effective to prevent the pre-term delivery. The usage of the antenatal corticosteroids is able to reduce the perinatal rate of mortality, syndrome of distress in respiration, necrotizing enter-colitis and systemic anomalies. Regardless the improvement obtained with the use of the antenatal steroid therapy, the administration of this treatment id not suitable repeatedly. The results of this research work emphasizes the restriction in the development and earlier prevalence of the delivery cause adverse Apgar scores. Hence, there are some factors of risk for the high morbidity and mortality of the neonates. The findings of this research work are similar with the results of a recent research work conducted by Blickstein.

The findings of this research work displayed that there was no impact of the umbilical cord's length and weight of placenta on the Apgar scores of pre-term

twins. We examined that the identification of pre-mature membrane's rupture appeared to have no influence on the scores of Apgar of twin gestations. There are some limitations of this current research work as this is a retroactive research work, there is very low birth rate from vagina with very high ratio of deliveries through cesarean section. The data showed the work of the single institution and randomization is not possible by means of route of delivery in such works because of legal and ethical issues.

CONCLUSION:

The findings of this research work suggest that in time of diagnosis of factors of risk and improved knowledge on risks linked with pre-term birth in case of twin pregnancies is very important. There is a need of the provision of progression of gestational age till delivery to permit the growth of fetal as much as promising. A well-organized algorithm with distinct prominence to these symptoms is the requirement to standardize the suitable strategy of management.

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