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EVALUATION OF FETAL AND MATERNAL OUTCOMES IN MULTIPLE PREGNANCIES

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ABSTRACT

Multiple pregnancies are an important topic of obstetrics as they are interesting and carry high risk. The increasing use of ultrasonography (USG) has made it possible to detect multiple pregnancies early. In the last 30 years, there has been a significant increase in the number of multiple pregnancies, especially in developed countries, with the increase in gestational age and the use of progressively developing assisted reproductive techniques (ART). Complications related to preterm birth and prematurity are observed with an increased frequency in these pregnancies. Therefore, multiple pregnancies constitute a process that should be monitored much more closely than singleton pregnancies due to many accompanying maternal and fetal complications. In this study, it was aimed to evaluate the maternal and fetal outcomes of multiple pregnancies with assisted reproductive techniques or spontaneous delivery in our clinic. Among all pregnant women who gave birth in our hospital between January 2018 and March 2022, 53 multiple pregnancies were included in the study. Maternal age, gestational week, delivery history, mode of delivery, birth weight and apgar scores (1st and 5th minutes) of the patients in the hospital database and file records were evaluated in terms of obstetric pathologies and perinatal outcomes. Level 1 and level 2 ultrasonography measurements and Doppler ultrasonography measurements of all patients were made by our radiology doctor in our hospital. Patient follow-ups were managed by the same gynecologist and obstetrician. There was no significant difference in the mean age of the participants according to birth weight, week of birth and mode of delivery ($p>0.05$). There was a significant difference in the mean age of the participants according to the presence of maternal hypertension ($p<0.05$). There was a statistically significant relationship between birth weight and multiple pregnancy status ($p<0.05$). The rate of birth weight of <1000 g and 1000-1500 g was higher in triplet pregnancies, and birth weight was found to be significantly lower than in twin pregnancies and this finding is consistent with the literature. There was a statistically significant relationship between the week of birth and multiple pregnancy status ($p<0.05$). The frequency of delivery between 24-28 and 28-32 weeks in triplet pregnancies was found to be significantly higher than in twin pregnancies and this finding is consistent with the literature. There was no statistically significant relationship between the presence of maternal Diabetes Mellitus (DM) and Hypertension (HT) and twin and triplet pregnancies ($p>0.05$). A statistically significant difference was found between twin pregnancy and triplet pregnancy in terms of both Apgar 1st Minute and Apgar 5th Minute scores ($p<0.05$). Both Apgar scores were higher in twin pregnancies. In a similar study, a high correlation and a statistically significant relationship was found between the 1st and 5th minute Apgar scores and the week of birth. One of the most determining factors on perinatal morbidity in multiple pregnancies is chorionicity. Perinatal outcomes are particularly related to week of birth and chorionicity. The biggest limitation of our study is the lack of sonographic evaluation of chorionicity in our file record information. Therefore, the relationship between neonatal outcomes and chorionicity could not be evaluated in this study and this is considered a limitation of the study.

Keywords: Pregnancy, Birth, Multiple, Fetal, Maternal

INTRODUCTION

Multiple pregnancies are an important topic of obstetrics as they are interesting and carry high risk. The increasing use of ultrasonography (USG) has made it possible to detect multiple pregnancies early. The traditional incidence of multiple pregnancies is calculated as 1-2% for twin pregnancies and 1/6400 for triple pregnancies (1-3). In the last 30 years, there has been a significant increase in the number of multiple pregnancies, especially in developed countries, with the increase in gestational age and the use of progressively developing assisted reproductive techniques (ART). The increase in unexplained infertility cases has simultaneously increased the use of assisted reproductive techniques, and accordingly, there has been a significant increase in multiple pregnancy rates. In our country, the frequency of twin births has been reported as 18.6/1000 and the frequency of triplet birth as 0.03/1000 (5). The incidence of multiple pregnancy in a population can be classically formulated (6).

Preterm birth and complications related to prematurity are observed with an increased frequency in these pregnancies. In addition, there is an increase in the frequency of complications such as preeclampsia, intrauterine growth retardation, and twin-to-twin transfusion syndrome (7,8). Twin pregnancies constitute approximately 10-15% of perinatal mortality (9). Intrauterine death and neonatal mortality rates are higher than in singleton pregnancies (10). Prematurity is responsible for a significant portion of mortality and morbidity in these babies. Although there are studies showing that the prognosis of premature babies born as a result of multiple pregnancies is worse than single babies born at the same gestational week, there are also studies that argue that this difference has disappeared as a result of advances in neonatal care in recent years (11). In general, multiple pregnancies constitute a process that should be monitored much more closely than singleton pregnancies due to many accompanying maternal and fetal complications.

In this study, it was aimed to evaluate the maternal and fetal outcomes of multiple pregnancies that were delivered by assisted reproductive techniques or spontaneously in our clinic. In our study, age, presence of twin or triplet pregnancy, gestational week, birth weight, mode of delivery, presence of steroid therapy, maternal diabetes, maternal hypertension, Apgar scores and assisted reproductive techniques (ART) were used as evaluation parameters.

MATERIAL AND METHODS

Among all pregnant women who gave birth in our hospital between January 2018 and March 2022, 53 multiple pregnancies were included in the study. Maternal age, gestational week, delivery history, mode of delivery, birth weight and apgar scores (1st and 5th minutes) of the patients in the hospital database and file records were evaluated in terms of obstetric pathologies and perinatal outcomes. Twin pregnancies and triplet pregnancies were categorized separately. Maternal age was considered as the age completed at the time of birth. Although the last known menstruation date was taken as the basis here, USG was used in cases where the last menstruation date could not be determined exactly, and if necessary, the corrected last menstruation date was given.

The gestational week was determined as the completed gestational week. Retrospectively, 48 twin and 5 triplet pregnancies were evaluated based on various maternal and fetal criteria. All multiple births over 24 weeks were included in the study. Parity was assessed as delivering a baby weighing more than 500 grams at the previous delivery. The mode of delivery was divided into two groups as vaginal and caesarean delivery.

Birth weight was recorded as the value measured in the delivery room and births were grouped as below 1000 grams, between 1000-1500 grams, between 1500-2000 grams, between 2000-2500 grams, and 2500 grams and above. The gestational weeks at the time of delivery were grouped as 24-28 weeks, 28-32 weeks, 32-36 weeks, and over 36 weeks. Patients with and without previous labor were divided into two groups.

The steroid was considered complete if the first dose of antenatal steroid was administered more than 24 hours and up to one week before delivery and both doses were administered. Patients who received a single dose of steroids or whose time between steroid administration and delivery could not be determined from the file records were excluded from the study. Patients who received full steroid therapy and those who were not treated at all were included in the study. No distinction was made between fresh embryo transfer and frozen embryo transfer in patients using assisted reproductive techniques. Two patients who were diagnosed with twin-to-twin transfusion syndrome before the 24th week and were referred to the upper center were not included in the study. A separate grouping was not made in terms of amnionicity and chorionicity in multiple pregnancies. Gender was determined based on physical examination findings. Level 1 and level 2 ultrasonography measurements and Doppler ultrasonography measurements of all patients were made by our radiology doctor in our hospital. Patient follow-ups were managed by the same doctor of obstetrics and gynecology. Presentation was determined by clinical evaluation and USG. The data were evaluated in the SPSS v.20 package program and $p<0.05$ was considered statistically significant. First of all,

the data obtained within the scope of the research were summarized with descriptive statistics. Then, hypothesis tests were conducted. Due to the small number of observations in some groups, non-parametric tests were used. Accordingly, Mann Whitney U was used in the comparison of binary groups, Kruskal Wallis was used in the comparison of more than two groups, chi-square analysis was performed in the analysis of relations between categorical data and Spearman correlation analysis was conducted in the analysis of relations between measurement data.

FINDINGS

81.1% of the participants used assisted reproductive technology (ART), and 17% had a history of birth in the past. 90.6% of the participants had twin pregnancies and 9.4% had triplets. Delivery took place between 32nd and 36th weeks in 62.3% of the participants. Birth weight was found to be between 2000-2500 grams at a rate of 54.7%. The mode of delivery was 75.5% by cesarean section. Antenatal steroid use was found to be 75.5%. 9.4% of the participants had a history of maternal HT and 5.7% of them had a history of maternal DM. The mean age of the participants was 30.64±3.91, the average Apgar 1st minute score was 6.24±1.60, and the average Apgar 5th minute score was 8.20±1.36 (Table 1).

Table 1. The primary study outcome

		Frequency	Percentage
Presence of ART	Yes	43	81,1
	No	10	18,9
Birth History	Yes	9	17,0
	No	44	83,0
Multiple Pregnancy	Twins	48	90,6
	Triplets	5	9,4
Birth Week	24-28. week	6	11,3
	28-32. week	12	22,6
	32-36. week	33	62,3
	>36. week	2	3,8
Birth Weight	<1000 gr	6	11,3
	1000-1500 gr	8	15,1
	1500-2000 gr	7	13,2
	2000-2500 gr	29	54,7
	>2500 gr	3	5,7
Mode of Delivery	C/S	40	75,5
	NSPD	13	24,5
Antenatal Steroid	Yes	13	24,5
	No	40	75,5
Maternal HT	Yes	5	9,4
	No	48	90,6
Maternal DM	Yes	3	5,7
	No	50	94,3

	N	Minimum	Maximum	Mean	Std. Deviation
Age	53	21	40	30,64	3,91
1st minute Apgar score	53	3	9	6,24	1,60
5th minute Apgar score	53	5	10	8,20	1,36

There was no significant difference in the mean age of the participants according to their birth weight (p>0.05) (Table 2).

Table 2

	Birth Weight	N	Mean Rank	X^2	p
Age	<1000 gr	6	26,17	1,508	0,825
	1000-1500 gr	8	27,13		
	1500-2000 gr	7	27,43		
	2000-2500 gr	29	25,97		
	>2500 gr	3	37,33		
	Total	53			

There was no significant difference in the mean age of the participants according to their birth week (p>0.05) (Table 3).

Table 3

	Birth Week	N	Mean Rank	X^2	p
Age	24-28. week	6	26,17	0,428	0,934
	28-32. week	12	27,33		
	32-36. week	33	26,62		
	>36. week	2	33,75		
	Total	53			

There was no significant difference in the mean age of the participants according to their type of birth (p>0.05) (Table 4).

Table 4

	Type of Birth	N	Mean Rank	U	p
Age	C/S	40	26,80	252,000	0,868
	NSPD	13	27,62		
	Total	53			

As shown in the table below a significant difference was found between the mean age of the participants according to the presence of maternal HT (p<0.05). The mean age of the group with maternal HT was found to be higher (Table 5).

Table 5

	Maternal HT	N	Mean Rank	U	p
Age	Yes	5	44,40	33,000	0,008
	No	48	25,19		
	Total	53			

There was no significant difference between the mean age of the participants according to the presence of maternal DM (p>0.05) (Table 6).

Table 6

	Maternal DM	N	Mean Rank	U	p
Age	Yes	3	23,33	64,000	0,671
	No	50	27,22		
	Total	53			

No statistically significant correlation was found between the age and Apgar 1 and 5 minute scores (p>0.05) (Table 7).

Table 7

	Age	1st minute Apgar score	5th minute Apgar score
Age	1,000	,075	,026
1st minute Apgar score	,075	1,000	,835**
5th minute Apgar score	,026	,835**	1,000

***p<0,01*

A statistically significant correlation was found between birth weight and multiple pregnancy status (p<0.05). Birth weight of <1000 g and 1000-1500 g was frequently found in triplet pregnancies, and birth weight was found to be significantly lower than in twin pregnancies (Table 8).

Table 8

			Multiple pregnancy		Total	X^2	p
			Twins	Triplets			
Birth Weight	<1000 gr	Count	2	4	6	27,153	0,000
		% within Birth Weight	33,3%	66,7%	100,0%		
		% within Multiple pregnancy	4,2%	80,0%	11,3%		
	1000-1500 gr	Count	7	1	8		
		% within Birth Weight	87,5%	12,5%	100,0%		
		% within Multiple pregnancy	14,6%	20,0%	15,1%		
	1500-2000	Count	7	0	7		

	gr	% within Birth Weight	100,0%	0,0%	100,0%
		% within Multiple pregnancy	14,6%	0,0%	13,2%
	2000-2500 gr	Count	29	0	29
		% within Birth Weight	100,0%	0,0%	100,0%
		% within Multiple pregnancy	60,4%	0,0%	54,7%
	>2500 gr	Count	3	0	3
		% within Birth Weight	100,0%	0,0%	100,0%
		% within Multiple pregnancy	6,3%	0,0%	5,7%
Total		Count	48	5	53
		% within Birth Weight	90,6%	9,4%	100,0%
		% within Multiple pregnancy	100,0%	100,0%	100,0%

There was a statistically significant relationship between the week of birth and multiple pregnancy status ($p<0.05$). The frequency of delivery between 24-28 and 28-32 weeks in triplet pregnancy was found to be significantly higher than in twin pregnancy (Table 9).

Table 9

			Multiple pregnancy		Total	X^2	p
			Twins	Triplets			
Birth Week	24-28. week 28-32. week 32-36. week	Count	2	4	6	26,666	0,000
		% within Birth Week	33,3%	66,7%	100,0%		
		% within Multiple pregnancy	4,2%	80,0%	11,3%		
	>36. week 24-28. week 28-32. week	Count	11	1	12		
		% within Birth Week	91,7%	8,3%	100,0%		
		% within Multiple pregnancy	22,9%	20,0%	22,6%		

	32-36. week 24-28. week	Count	33	0	33
		% within Birth Week	100,0%	0,0%	100,0%
		% within Multiple pregnancy	68,8%	0,0%	62,3%
	28-32. week	Count	2	0	2
		% within Birth Week	100,0%	0,0%	100,0%
		% within Multiple pregnancy	4,2%	0,0%	3,8%
Total		Count	48	5	53
		% within Birth Week	90,6%	9,4%	100,0%
		% within Multiple pregnancy	100,0%	100,0%	100,0%

No statistically significant relationship was found between the mode of delivery and twin and triplet pregnancies (p>0.05) (Table 10).

Table 10. Relationship between the mode of delivery and twin and triplet pregnancies

			Multiple pregnancy		Total	X^2	p
			Twins	Triplets			
Type of Delivery	C/S	Count	35	5	40	1,794	0,180
		% within Type of Delivery	87,5%	12,5%	100,0%		
		% within Multiple pregnancy	72,9%	100,0%	75,5%		
	NSPD	Count	13	0	13		
		% within Type of Delivery	100,0%	0,0%	100,0%		
		% within Multiple pregnancy	27,1%	0,0%	24,5%		
Total		Count	48	5	53		
		% within Type of Delivery	90,6%	9,4%	100,0%		
		% within Multiple pregnancy	100,0%	100,0%	100,0%		

No statistically significant relationship was found between antenatal steroid use and twin and triplet pregnancies (p>0.05) (Table 11).

Table 11. Relationship between antenatal steroid use and twin and triplet pregnancies

			Multiple pregnancy		Total	X^2	p
			Twins	Triplets			
Antenatal steroid use	Yes	Count	13	0	13	1,794	0,180
		% within Antenatal steroid use	100,0%	0,0%	100,0%		
		% within Multiple pregnancy	27,1%	0,0%	24,5%		
	No	Count	35	5	40		
		% within Antenatal steroid use	87,5%	12,5%	100,0%		
		% within Multiple pregnancy	72,9%	100,0%	75,5%		
Total		Count	48	5	53		
		% within Antenatal steroid use	90,6%	9,4%	100,0%		
		% within Multiple pregnancy	100,0%	100,0%	100,0%		

No statistically significant relationship was found between the presence of maternal HT and twin and triplet pregnancies (p>0.05) (Table 12.)

Table 12

			Multiple pregnancy		Total	X^2	p
			Twins	Triplets			
Maternal HT	Yes	Count	5	0	5	0,575	0,448
		% within Maternal HT	100,0%	0,0%	100,0%		
		% within Multiple pregnancy	10,4%	0,0%	9,4%		
	No	Count	43	5	48		
		% within Maternal HT	89,6%	10,4%	100,0%		
		% within Multiple pregnancy	89,6%	100,0%	90,6%		
Total		Count	48	5	53		
		% within Maternal HT	90,6%	9,4%	100,0%		
		% within Multiple pregnancy	100,0%	100,0%	100,0%		

No statistically significant relationship was found between the presence of maternal DM and twin and triplet pregnancies (p>0.05) (Table 13).

Table 13

			Multiple pregnancy		Total	X^2	p
			Twins	Triplets			
Maternal DM	Yes	Count	3	0	3	0,331	0,565
		% within Maternal DM	100,0%	0,0%	100,0%		
		% within Multiple pregnancy	6,3%	0,0%	5,7%		
	No	Count	45	5	50		
		% within Maternal DM	90,0%	10,0%	100,0%		
		% within Multiple pregnancy	93,8%	100,0%	94,3%		
Total		Count	48	5	53		
		% within Maternal DM	90,6%	9,4%	100,0%		
		% within Multiple pregnancy	100,0%	100,0%	100,0%		

A statistically significant difference was found between twin pregnancies and triplet pregnancies in terms of both Apgar 1st Minute and Apgar 5th Minute scores (p<0.05). Both Apgar scores were found to be higher in twin pregnancies (Table 14).

Table 14

	Multiple pregrancy	N	Mean Rank	U	p
1st minute Apgar score	Twins	48	28,99	24,500	0,003
	Triplets	5	7,90		
	Total	53			
5th minute Apgar score	Twins	48	29,24	12,500	0,000
	Triplets	5	5,50		
	Total	53			

No significant difference was found in terms of both Apgar scores according to antenatal steroid administration (p>0.05). No significant difference was found between the treated and untreated patients (Table 15).

Table 15

	Antenatal steroid use	N	Mean Rank	U	p
1st minute Apgar score	Yes	13	23,27	211,500	0,298
	No	40	28,21		
	Total	53			

5th minute Apgar score	Yes	13	31,12	206,500	0,224
	No	40	25,66		
	Total	53			

There was no significant difference (p>0.05) between the birth weights of the babies born to patients with a history of delivery before twin or triplet pregnancies and patients without a history of delivery (Table 16).

Table 16

			Birth history		Total	X^2	p
			Yes	No			
Birth weight	<1000 gr	Count	0	6	6	5,198	0,268
		% within Birth weight	0,0%	100,0%	100,0%		
		% within Birth history	0,0%	13,6%	11,3%		
	1000-1500 gr	Count	0	8	8		
		% within Birth weight	0,0%	100,0%	100,0%		
		% within Birth history	0,0%	18,2%	15,1%		
	1500-2000 gr	Count	2	5	7		
		% within Birth weight	28,6%	71,4%	100,0%		
		% within Birth history	22,2%	11,4%	13,2%		
	2000-2500 gr	Count	7	22	29		
		% within Birth weight	24,1%	75,9%	100,0%		
		% within Birth history	77,8%	50,0%	54,7%		
	>2500 gr	Count	0	3	3		
		% within Birth weight	0,0%	100,0%	100,0%		
		% within Birth history	0,0%	6,8%	5,7%		
Total		Count	9	44	53		
		% within Birth weight	17,0%	83,0%	100,0%		
		% within Birth history	100,0%	100,0%	100,0%		

There was no significant difference (p>0.05) between the birth weeks of the babies born to patients with a history of delivery before twin or triplet pregnancies and patients without a history of delivery (Table 17).

Table 17

			Birth history		Total	X^2	p
			Yes	No			
Birth week	24-28. week	Count	0	6	6	3,830	0,280
		% within Birth week	0,0%	100,0%	100,0%		
		% within Birth history	0,0%	13,6%	11,3%		
	28-32. week	Count	1	11	12		
		% within Birth week	8,3%	91,7%	100,0%		
		% within Birth history	11,1%	25,0%	22,6%		
	32-36. week	Count	7	26	33		
		% within Birth week	21,2%	78,8%	100,0%		
		% within Birth history	77,8%	59,1%	62,3%		
	>36. week	Count	1	1	2		
		% within Birth week	50,0%	50,0%	100,0%		
		% within Birth history	11,1%	2,3%	3,8%		
Total		Count	9	44	53		
		% within Birth week	17,0%	83,0%	100,0%		
		% within Birth history	100,0%	100,0%	100,0%		

There was no significant difference between the Apgar scores of patients who delivered by caesarean section and those who delivered by normal delivery (p>0.05) (Table 18).

Table 18

	Type of birth	N	Mean Rank	Sum of Ranks	U	p
1st minute Apgar score	C/S	40	27,05	1082,00	258,000	0,966
	NSPD	13	26,85	349,00		
	Total	53				
5th minute Apgar score	C/S	40	26,58	1063,00	243,000	0,699
	NSPD	13	28,31	368,00		
	Total	53				

There was no significant difference between the birth weight of patients who had multiple pregnancies with the presence of ART and those who had multiple pregnancies without ART (p>0.05) (Table 19).

Table 19

			Presence of ART		Total	X^2	p
			Yes	No			
Birth weight	<1000 gr	Count	6	0	6	7,111	0,130
		% within Birth weight	100,0%	0,0%	100,0%		
		% within Presence of ART	14,0%	0,0%	11,3%		
	1000-1500 gr	Count	8	0	8		
		% within Birth weight	100,0%	0,0%	100,0%		
		% within Presence of ART	18,6%	0,0%	15,1%		
	1500-2000 gr	Count	4	3	7		
		% within Birth weight	57,1%	42,9%	100,0%		
		% within Presence of ART	9,3%	30,0%	13,2%		
	2000-2500 gr	Count	22	7	29		
		% within Birth weight	75,9%	24,1%	100,0%		
		% within Presence of ART	51,2%	70,0%	54,7%		
	>2500 gr	Count	3	0	3		
		% within Birth weight	100,0%	0,0%	100,0%		
		% within Presence of ART	7,0%	0,0%	5,7%		
Total		Count	43	10	53		
		% within Birth weight	81,1%	18,9%	100,0%		
		% within Presence of ART	100,0%	100,0%	100,0%		

There was no significant difference between the gestational age at delivery in patients who had multiple pregnancies with the presence of ART and those who had multiple pregnancies without ART (p>0.05) (Table 20).

Table 20

			Presence of ART		Total	X^2	p
			Yes	No			
Birth	24-28.	Count	6	0	6	2,818	0,421

week	week	% within Birth week	100,0%	0,0%	100,0%
		% within Presence of ART	14,0%	0,0%	11,3%
	28-32. week	Count	10	2	12
		% within Birth week	83,3%	16,7%	100,0%
		% within Presence of ART	23,3%	20,0%	22,6%
	32-36. week	Count	26	7	33
		% within Birth week	78,8%	21,2%	100,0%
		% within Presence of ART	60,5%	70,0%	62,3%
	>36. week	Count	1	1	2
		% within Birth week	50,0%	50,0%	100,0%
		% within Presence of ART	2,3%	10,0%	3,8%
Total		Count	43	10	53
		% within Birth week	81,1%	18,9%	100,0%
		% within Presence of ART	100,0%	100,0%	100,0%

There was no significant difference in the 1st and 5th minute Apgar scores of the patients who had multiple pregnancies with the presence of ART and those who had multiple pregnancies without ART (p>0.05) (Table 21).

Table 21

	Presence of ART	N	Mean Rank	U	p
1st minute Apgar score	Yes	43	25,88	167,000	0,258
	No	10	31,80		
	Total	53			
5th minute Apgar score	Yes	43	26,26	183,000	0,424
	No	10	30,20		
	Total	53			

There was no significant difference in the frequency of cesarean section and normal delivery in patients who had multiple pregnancies with the presence of ART and those who had multiple pregnancies without ART (p>0.05) (Table 22).

Table 22

	Presence of ART		Total	X^2	p
	Yes	No			

Type of birth	C/S	Count	33	7	40	0,199	0,655
		% within Type of birth	82,5%	17,5%	100,0%		
		% within Presence of ART	76,7%	70,0%	75,5%		
	NSPD	Count	10	3	13		
		% within Type of birth	76,9%	23,1%	100,0%		
		% within Presence of ART	23,3%	30,0%	24,5%		
Total		Count	43	10	53		
		% within Type of birth	81,1%	18,9%	100,0%		
		% within Presence of ART	100,0%	100,0%	100,0%		

DISCUSSION

In our study, the data of 53 multiple pregnancy cases were analyzed retrospectively. In our study, the frequency of twin pregnancy was found to be 90.6%. The incidence of twin pregnancy was found to be consistent with the literature (1,12,13). The incidence of multiple pregnancy has increased over the years. The most likely reasons for this can be considered as the widespread use of assisted reproductive techniques and advanced maternal age (5). The most common obstetric complication of multiple pregnancies is preterm delivery. In our study, 96.2% of the cases gave birth before 37 weeks of gestation. In a study, the rate of preterm delivery was found to be 47.5%, which is compatible with our study (14). In the same study, a significant relationship was found between low Apgar score and prematurity and immaturity ($p<0.05$) (14). Similarly, in another study, 1st and 5th minute Apgar scores were found to be related to the gestational age at delivery ($p<0.001$) (15). In three separate multiple pregnancy studies, the rates of infants with 1st minute Apgar scores <7 were found to be 41.2%, 14.9%, 17.5% and 25.9%, respectively (14,15,16,17). In our study, the mean Apgar 1st minute score was 6.24±1.60 and the mean Apgar 5th minute score was 8.20±1.36. This difference between the studies may have resulted from the birth week of the newborns. In our study, there was a statistically significant difference between twin pregnancy and triplet pregnancy in terms of both Apgar 1st minute and Apgar 5th minute scores ($p<0.05$). Both Apgar scores were found to be higher in twin pregnancies. In our study, there was no statistically significant relationship between age and Apgar 1 and 5 minute scores ($p>0.05$). In our study, there was no significant difference in both Apgar scores according to antenatal steroid administration ($p>0.05$). There was no significant difference between the patients who underwent the procedure and those who did not. In our study, no significant difference was found between the Apgar score of patients who delivered by cesarean section and those who delivered by normal delivery ($p>0.05$). In our study, no significant difference was found between the frequency of cesarean section and normal delivery in patients who had multiple pregnancies with the presence of ART and the frequency of cesarean section and normal delivery in patients who had multiple pregnancies without ART ($p>0.05$). In a study evaluating birth weights, the mean twin weight was found to be 2171 grams. The rate of very low birth weight infants (<1500 g) was 16% and the rate of low birth weight infants (<2500 g) was 61% (5). In another study, the rate of infants born <1500 gr was 12.7% and the rate of twin infants born between 1500-2500 gr was 51.1% (15). In another study, they found the rate of babies <2500 g in twin pregnancies to be 60-70% (18). In our study, delivery took place between 32nd and 36th weeks in 62.3% of the participants. Birth weight was found to be between 2000-2500 grams at a rate of 54.7%. There was a statistically significant relationship between birth weight and multiple pregnancy status ($p<0.05$). Birth weight between <1000 g and 1000-1500 g was found in triplet pregnancies, and birth weight was found to be significantly lower in triplets than twin pregnancies. Hypertension, preeclampsia and gestational diabetes are observed more frequently in twin pregnancies (14). In a study, pregnancy-related hypertensive diseases were found with a rate of 16.4% (14). In another study, hypertension-preeclampsia was found in 9 cases (19.1%) and gestational diabetes in 7 cases (14.9%) (15). In our study, 9.4% of the participants had maternal HT and 5.7% had maternal DM. In our study, there was a significant difference between the mean age of the participants according to the presence of maternal HT ($p<0.05$). The mean age of the group with maternal HT was found to be higher. There was no significant difference between the mean age of the participants according to the presence of maternal DM ($p>0.05$). There was no statistically significant relationship between the presence

of maternal HT and twin and triplet pregnancies (p>0.05). There was no statistically significant relationship between the presence of maternal DM and twin and triplet pregnancies (p>0.05). There was no significant difference between the mean age of the participants according to birth weight, week of birth and mode of delivery (p>0.05). In our study, there was a statistically significant relationship between the week of birth and multiple pregnancy status (p<0.05). The frequency of delivery between 24-28 and 28-32 weeks in triplet pregnancy was found to be significantly higher than in twin pregnancy. In our study, no significant difference was found between the birth weight, week of birth and Apgar scores of the patients who had multiple pregnancies with the presence of ART and those who had multiple pregnancies without the presence of ART (p>0.05). Chorionicity is considered one of the most determining factors on perinatal morbidity in twin pregnancies. About 70% of twin pregnancies are dizygotic twins. Fetal risks such as Intrauterine Growth Retardation (IUGR) and Twin-to-Twin Transfusion Syndrome (TTTS), fetal morbidity and mortality are increased in monochorionic twins (19). In a study in which 678 twin pregnancies were evaluated, they emphasized that neonatal morbidity increased significantly in monochorionic twins, and therefore, chorionicity should be evaluated in the first trimester if possible (20). In conclusion, multiple pregnancies are still a cause of perinatal and maternal morbidity. These pregnancies are complicated by preterm birth, premature rupture of membranes, diabetes, cholestasis, urinary system infection, hypertension, and postpartum hemorrhage more frequently than the normal population. Perinatal outcomes are particularly related to week of birth and chorionicity. The biggest limitation of our study is the lack of sonographic evaluation of chorionicity in our file record information. Therefore, the relationship between neonatal outcomes and chorionicity could not be evaluated in this study.

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back