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THE CORRELATION BETWEEN PLACENTAL LOCATION AND EARLY DETECTION OF FETAL GENDER

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ABSTRACT
This is a cross-sectional study was conducted from 1st of October 2023 to 30th June 2024. A convenient sample of 50 pregnant women who attend the obstetrical and gynecology clinics in Tikrit Teaching Hospital. Inclusion Criteria include: Single viable fetus with gestational age range 5-7 weeks. The exclusion Criteria include: multiple pregnancies, abortion, bicornate uterus, fetal death, and reluctance to participate in the study. The placental site at right side was significantly higher among male sex 14(70%) in comparison to 10(33.3%) of the female sex, while the female sex was commonly on the left side 20 (66.7%) in comparison to male 6(30%). The placental site anteriorly was non significantly higher among female sex 19(63.3%) in comparison to 8(40 %) of the male sex, while the male sex was commonly on the posterior side 12(60 %) in comparison to female 11(36.7 %). The placental location at Right anterior was higher among male sex 5(25%) than female sex 5(16%), Right Posterior position was higher among male sex 9(45%) than female sex 5(16%), while Left Anterior position was higher among female sex 14(46.7%) than male sex 3(15%), Left Posterior position was higher among female sex 6(20 %) than male sex 3(15%), this relation was statistically significant. The mean crown rump length among male sex at 7 week of gestation was significantly higher than female sex (10.5±0.92), (7.8± 3.6), respectively. The mean fetal heart rate among male sex at 7 week of gestation was significantly higher than female sex (148.5±2.3)),146±2.3)respectively .
Keywords: Placental Location and Fetal Gender, Early Detection of Fetal Gender

INTRODUCTION

Fetal sex determination is a momentous event that takes place along one's pregnancy. Awareness of fetal gender at primary stages of pregnancy is very important, allows parents to prepare for their newborn's arrival, strengthens the mother's bond with her child, and offers time for parents to mentally absorb the growth of their family. Furthermore, a study reported there were several psychological advantages of early prenatal testing, such as "perceived control, normalization of pregnancy, peace of mind, and facilitating decision-making".1 The discovery of the fetus's sex allows the restless journey of becoming parents to be more manageable. [1] Gender determination is done for parental request in 95.5% of pregnant

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women, it is also determined for medical advantages such as multiple pregnancies, ambiguous genitalia, fetal malformation, family history of X-linked disorders.[2] The fetal gender can be identified even in the first trimester of pregnancy from the 11th-week onward through use of abdominal ultrasonography observing the direction of the genital tubercle and sagittal sign. A downward tubercle indicates a female fetus and an upward tubercle a male fetus.[2] If the examination of the midline sagittal view of the genital area shows a caudal notch, the fetus is female, and if it shows a cranial notch, then the fetus is male.[3]

Fetal gender can also be detected by measuring the angle between the genital tubercle and crown rump length (CRL) in mid-sagittal view at 12 weeks; [4] however, gender prediction by US is 100% sensitive for accurately detecting the fetal gender during the second and third trimesters. [5] In the second and third trimesters of pregnancy, ultrasound imaging scans the genital anatomy of the fetus to identify its gender. In the early studies conducted on the use of ultrasound results for identifying the fetal gender, a male fetus was demonstrated by the presence of a scrotum and a penis, and a female fetus by the absence of these organs. [6]

With technological advances of ultrasound, seeing the vulva, clitoris, and labia are taken to indicate a female fetus, whereas seeing the scrotum, penis, testicles, and raphe indicate a male fetus. Seeing the internal pelvic structure of the fetus, including the uterus and ovary, is also used to help identify the fetal gender. [6,7] The sensitivity of gender identification measures depends on the operator, machine, and habitus involved, and it increases with the radiologist's experience and if ultrasound imaging is performed using the high-resolution machine. A false fetal gender identification has adverse psychological effects on the family. [7] Specialists are therefore constantly seeking to make accurate fetal gender identification in the first trimester of pregnancy. The aim of this study was to assess the accuracy of placental location and its relation to fetal gender on early first-trimester abdominal US scan with color Doppler to assess the site of the chorionic plate and compare it with sex when examined at second-trimester scanning.

MATERIAL

This is a cross-sectional study was conducted from 1st of October 2023 to 30th June 2024. A convenient sample of 50 pregnant women who attend the obstetrical and gynecology clinics in Tikrit Teaching Hospital. Inclusion Criteria include: Single viable fetus with gestational age range 5-7 weeks. The exclusion Criteria include: multiple pregnancies, abortion, bicornate uterus, fetal death, and reluctance to participate in the study. Data collected through: Direct interview with pregnant women using structural questionnaire including information regarding the demographic characteristics, age, parity, gravidity, obstetrical history, and transabdominal ultrasound examination: transverse and sagittal views of gestational sac were obtained. Gestational age calculated by measuring crown rump length at 5–7 weeks The fetal sex predicted based on the location of the chorionic villai as indicator of the placental sit (right, left, anterior, posterior). the patient’s verbal consent was taken through an interview.

RESULTS

The common age group among women was (21-25) years 18 (36%), followed by 26-35) years 24 (48%). The mother education was read and write 11(22%), primary school 14 (28%), secondary school 24 (48%), and college 1 (2%). The mother job was Housewife 35 (70%), and employer 15(30%). Gravida 2 was the commonest 18 (36%) followed by ≥3 gravida 26(52%), and Primigravida 6 (12%). Regarding parity; ≤2 parity 26(52%) was the commonest followed

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by Primipara 16(32%) and Nuliparity 8(16%). The commonest BMI was (25-29.9 (Over weight)) 41(82%) followed by obese 5(10%) and normal weight 4(8%). The fetus sex was female 30 (60%) followed by male 20(40%), as shown in table 1.

The placental site at right side was significantly higher among male sex 14(70%) in comparison to 10(33.3%) of the female sex, while the female sex was commonly on the left side 20 (66.7%) in comparison to male 6(30%), in a statistically significant relation as shown in table 2. The placental site anteriorly was non significantly higher among female sex 19(63.3%) in comparison to 8(40 %) of the male sex, while the male sex was commonly on the posterior side 12(60 %) in comparison to female 11(36.7 %), in a statistically none significant relation as shown in table 2. The placental location at Right anterior was higher among male sex 5 (25%) than female sex 5 (16%), Right Posterior position was higher among male sex 9 (45%) than female sex 5 (16%),while Left Anterior position was higher among female sex 14 (46.7%) than male sex 3 (15%), Left Posterior position was higher among female sex 6 (20 %) than male sex 3 (15%), in a statistically significant relation as shown in table 2.

Among women aged ≤ 20 years: The placental location at Right anterior was higher among male sex 1(14.3%) than female sex 0(0%), Right Posterior position was higher among male sex 5(71.1%) than female sex 0(0%). Among women aged 21-25 years: The placental location at Right anterior was higher among male sex 2(50%) than female sex 1(7.10 %), Right Posterior position was 0(0%) among male sex and 2(14.3%) among female sex. The left anterior was equal among female sex 7(50%) and male sex 2(50 %), the left posterior was higher among female sex 4(28.6%) than male sex 0(0%). All the above were of statistically not significant relation (P value > 0.05), as shown in table 3. Among women aged 26-35 years: The placental location at Right anterior was higher among female sex 4(26.7%) than male sex 2(22.2 %), Right Posterior position was higher among male sex 4(44.4%) than female sex 3(20 %), the left anterior was higher among female sex 6(40%) than male sex 0(0%), and left posterior was higher among male sex 3(33.3%) than female sex 2(13.3%), in a statistically significant relation, as shown in table 3.

Among women aged ≤ 20 years: The placental location at anterior site was 2(28.6%) among male sex and 1(100%) among female sex, the Posterior position was higher among male sex 5(71.1%) than female sex 0(0%). Among women aged 21-25 years: The placental location at anterior site was 4(100 %) among male sex, and 8(57.1%) among female sex, the Posterior position was higher among female sex 6(42.9%) than male sex 0(0%). The above two were of statistically none significant relations. Among women aged 26-35 years: The placental location at anterior site was lower among male sex 2(22.2%) than female 10 (66.7%), the Posterior position was higher among male sex 7(77.8%) than female sex 5(33.3%). in a statistically significant relation, as shown in table 4.

Among women aged ≤ 20 years: The placental location at right site was higher among male sex 6(85.7 %) than female sex 0(0%), the left position was higher among female sex 1(100 %) than male sex 1(14.3%). Among women aged 21-25 years: The placental location at right site was higher among male sex 2(50 %) than female sex 3(21.4%), the left position was higher among female sex 3(78.6 %) than male sex 2(50 %). Among women aged 26-35 years: The placental location at right site was higher among male sex 6(66.7 %) than female sex 7(46.7%), the left position was higher among female sex 8(53.3 %) than male sex 3(33.3 %). The above three were of statistically none significant relations as shown in table 5. Among ≥ 3 gravida women: The placental location at Right anterior site was lower among male sex 2(22.2%) than female sex 4(23.5 %), the Right Posterior position was higher among male sex 4(44.4 %) than

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female sex 3(17.6%).the left anterior was higher among female sex 6(35.3 %) than male sex 0(0%), and left posterior was higher among male sex 3(33.3%) than female sex 4(23.5%), in a statistically not significant relation as shown in table 4.6. Among Gravida 2 women: The placental location at anterior site was lower among male sex 2(40 %) than female sex 9 (69.2 %), the placental location at Posterior site was higher among male sex 3(60%) than female sex 4(30.8%), in a statistically not significant relation as shown in table 7.

Among ≥3 gravida women: The placental location at right site was higher among male sex 6(66.7 %) than female sex 7 (41.2 %), the placental location at left site was lower among male sex 3(33.3%) than female sex 10(58.8%), in a was statistically none significant relation, as shown in table 8. Among ≥ 2 parity women: The placental location at Right anterior site was lower among male sex 2(22.2 %) than female sex 4(23.5 %), the Right Posterior position was higher among male sex 4(44.4 %) than female sex 3(17.6%).the left anterior was higher among female sex 6(35.3%) than male sex 0(0%), and left posterior was higher among male sex 3(33.3%) than female sex 4 (23.5%), in a statistically none significant relation, as shown in table 9. Among Primipara women: The placental location at anterior site was lower among male sex 2(40 %) than female sex 7(63.6 %), the Posterior position was higher among male sex 3(60 %) than female sex 4(36.4%), in a none significant relation, as shown in table 4.10. Among Primipara women: The placental location at right site was higher among male sex 5(100 %) than female sex 3(27.3 %), the left site was lower among male sex 0(0 %) than female sex 8(72.7 %), in a none significant relation, as shown in table 11. The mean crown rump length (CRL) among male sex at 6 week of gestation was lower than female sex (4.83±1.3), (4.87± 0.91), respectively, this relation was not statistically significant as shown in figure 4.1, and table 4.12. at 7 week of gestation the male sex CRL was higher than female sex (10.5±0.92), (7.8± 3.6), respectively, in a statistically significant relation as shown in table 12. The mean fetal heart rate (FHR) among male sex at 6 week of gestation was lower than female sex (148±5.5), (151± 3.14), respectively, this relation was not statistically significant as shown in figure 4.2, and table 4.13. at 7 week of gestation the male sex FHR was higher than female sex (148.5±2.3), (146± 2.3), respectively, in a statistically significant relation as shown in table 13.

DISCUSSION

In the current study the placental site at right side was significantly higher among male sex (70%) in comparison to (33.3%) of the female sex, while the female sex was significantly higher on the left side (66.7%) in comparison to male (30%). This results goes with Ghasemi and Shafti's [8] in Iran, who found that 72% of Rt. placenta fetuses were males, whereas 70% of left sided placenta were females as significant relation. Similar results were found by Mirbolouk F et al 2019 [9] who found that there were significant relation between the right site of placenta and the male sex (56.5%), and left site in female sex (57.1%).

Al-Shaikh SF and Al-Jeborry MM [10] in Iraq, found that 91.26% of male fetus with right-sided implantation of gestational sac and 87.43% of female fetus with left-sided implantation of gestational sac, referring to Ramzi's method who's results revealed higher prediction rate approaching to 97.5% for both female and male sexes.

While Qasim HA et al in 2022 in Iraq [11] found that among male fetus most of the placental location was on the right side (50%) in comparison to females (40.7%), while the left sided placentation found among (59.3%) of females and (50%) of the males, this relation was not significant statistically.

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Current study results revealed that the placental site anteriorly was non significantly higher among female sex 19(63.3%) in comparison to 8(40 %) of the male sex, while the male sex was commonly on the posterior side 12(60 %) in comparison to female 11(36.7 %), this relation was statistically non-significant.

This results goes with Qasim HA et al in 2022 in Iraq [11] who found that (59.3%) female had anteriorly located placenta and 11/27(40.7%) female had posterior placenta, whereas 25/40 (62.5%) of male had anterior placenta, and 15/40 (37.5%) males had posterior placenta. The relation was not statistically significant.

Mirbolouk F et al 2019 [9] in Iran, who found that there were none significant relation between the anterior and posterior position of the placenta. (52.5%) for the anterior among male and (51.3) for posterior position in females sex.

In contrary to this study results Khalid NH et al [12] in 2023 in Saudi Arabia, found that the majority of placentas (73, 51.4%) were found to be anterior, of which 66 (46.5%) and 7 (4.9%) were present in females and males, respectively. 58 (40.8%) placentas were noted to be posterior, i.e. females, 10 (7.0%); males 48 (33.8%).

The placental location at Right anterior was higher among male sex 5(25%) than female sex 5(16%), Right Posterior position was higher among male sex 9(45%) than female sex 5(16%), while Left Anterior position was higher among female sex 14(46.7%) than male sex 3(15%), Left Posterior position was higher among female sex 6(20 %) than male sex 3(15%), this relation was statistically significant. This goes with Mirbolouk F et al 2019 [9] in Iran who found that the chance of female birth in left posterior placenta was 2.4 fold higher than right anterior placenta. (OR = 2.42, 95% CI: 1.54- 3.79). Furthermore, the chance of female birth in left posterior placenta was 1.88 fold higher than right posterior (reference group) placenta (OR = 1.88, 95% CI: 1.23-2.87).

The current study indicated that the women aged 26-35 years was associated with placental location and fetal sex; the placental location at Right anterior was higher among female sex 4(26.7%) than male sex 2 (22.2 %), Right Posterior position was higher among male sex 4(44.4%) than female sex 3(20 %), the left anterior was higher among female sex 6(40%) than male sex 0(0%), and left posterior was higher among male sex 3(33.3%) than female sex 2(13.3%), this relation was statistically significant.

This goes with Mirbolouk F et al 2019 [9] in Iran who found that there was a significantly relationship between maternal age groups (26-35 years old) and placental location. Khalid NH et al [12] in 2023 in Saudi Arabia, found that the sites of the placenta according to maternal age were described in detail and, again, no correlation between these two parameters was observed

Among Primipara women was significantly associated with placental location and fetal sex: The placental location at Right anterior site was higher among male sex 2(40 %) than female sex 1(9.1 %), the Right Posterior position was higher among male sex 3(60 %) than female sex 2(18.2%).the left anterior was higher among female sex 6(54.5%) than male sex 0(0%), and left posterior was higher among female sex 2(18.2%) than male sex 0(0%), this relation was statistically significant. The placental location at right site was significantly higher among male sex 5(100 %) than female sex 3(27.3 %), the left site was lower among male sex 0(0 %) than female sex 8(72.7 %). This goes with Khalid NH et al [12] in 2023 in Saudi Arabia, found that of the 44 multiparous females, 44 (31%) and 57 (40.1%) had male and female fetuses, respectively. No significant relationships were observed between parity, the gender of the fetus and the site of the placenta.

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The mean crown rump length (CRL) among male sex at 7 week of gestation was significantly higher than female sex (10.5±0.92), (7.8± 3.6), respectively. This goes with Borowski J et al 2022 [13] in Poland, who found that the higher the value of the CRL parameter with a lower value of GA, the higher the probability that the child will be male and lower the probability that the child will be female. Conversely, the lower the value of the CRL parameter with a higher value of the GA parameter, the less likely the child will be male and the more likely the child will be female.
The mean fetal heart rate (FHR) among male sex at 7 week of gestation was significantly higher than female sex (148.5±2.3), (146±2.3). In a systematic review and meta-analysis done by Nouri S et al in 2023 [14] in Iran, showed that even though male fetuses show faster FHR but such sex-related difference is minimal. Therefore, first-trimester FHR is not a reliable predictive test for fetal sex determination.
In contrary Bracero LA et al [15] in 2016 In United State of America, who found no significant differences between 332 (50.7%) female and 323 (49.3%) male FHRs during the first trimester. The mean FHR for female fetuses was 167.0 ± 9.1 bpm and for male fetuses 167.3 ± 10.1 bpm. More studies are needed to study the role of CRL and fetal heart rate in sex prediction.

CONCLUSION

Fetal sex was significantly related to the placental location therefore more studies with larger sample size is needed to understand the relation and pathophysiology behind this relation. Fetal heart rate and crown rump length also found in this study related to sex therefore more studies with larger sample size to examine these tow relations are needed.

CONFLICT OF INTEREST

[No any financial interest or any conflict of interest exists.]

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TABLES

Table 1: General Characteristics of the Study Group

Characteristics		Frequency	Percent
Age	**<20 years**	**8**	**16.0**
	21-25 years	**18**	**36.0**
	26-35 years	**24**	**48.0**
Mother education	**read and write**	**11**	**22.0**
	Primary school	**14**	**28.0**
	Secondary school	**24**	**48.0**
	college	**1**	**2.0**
Mother Job	**Housewife**	**35**	**70.0**
	Employer	**15**	**30.0**
Gravidity	**Primigravida**	**6**	**12.0**
	Gravida 2	**18**	**36.0**
	≥3 gravida	**26**	**52.0**
Parity	**Nuliparity**	**8**	**16.0**
	Primipara	**16**	**32.0**
	≤2 parity	**26**	**52.0**
BMI	**18.5-24.9 (Normal)**	**4**	**8.0**
	25-29.9 (Over weight)	**41**	**82.0**
	30.0 and Above(Obesity)	**5**	**10.0**
Sex of the Fetus	**Male**	**20**	**40.0**
	Female	**30**	**60.0**
Total		**50**	**100.0**

Table 2: The Relation of the Placental Location and Fetal Sex

Placental Location	Male		Female		P value
	No.	%	No.	%	
Right	14	70.00%	10	33.30%	<0.05
Left	6	30.00%	20	66.70%	
Anterior	8	40.00%	19	63.30%	> 0.05
Posterior	12	60.00%	11	36.70%	

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Right anterior	5	25.0%	5	16.7%	
Right Posterior	9	45.00%	5	16.70%	<0.05
Left Anterior	3	15.00%	14	46.7 %	
Left Posterior	3	15.00%	6	20.00%	
Total	20	100.00%	30	100.00%	

Table 3. The Relation of Placental Site (Right and Left, Anterior and Posterior) and Fetal Sex According to Maternal Age

Age	**Location**	**Male**		**Female**		**P value**
		No.	%	No.	%	
≤ 20 years	Right anterior	1	14.3%	0	0.0%	>0.05
	Right Posterior	5	71.4%	0	0.00%	
	Left Anterior	1	14.30%	1	100.00%	
	Total	7	100.00%	1	100.00%	
21-25 years	Right anterior	2	50.00%	1	7.10%	>0.05
	Right Posterior	0	0.00%	2	14.30%	
	Left Anterior	2	50.00%	7	50.0%	
	Left Posterior	0	0.00%	4	28.60%	
	Total	4	100.00%	14	100.00%	
26-35 years	Right anterior	2	22.2%	4	26.70%	<0.05
	Right Posterior	4	44.4%	3	20.00%	
	Left Anterior	0	0.00%	6	40.00%	
	Left Posterior	3	33.30%	2	13.30%	
	Total	9	100.00%	15	100.00%	

Table 4 The Relation of Placental Site (Anterior and Posterior) and Fetal Sex According to Maternal Age

Age	**Placental location**	**Male**		**Female**		**P value**
		No.	%	No.	%	
<20 years	Anterior	2	28.6%	1	100.0%	>0.05
	Posterior	5	71.4%	0	0.0%	
	Total	7	100.0%	1	100.0%	
21-25 years	Anterior	4	100.0%	8	57.1%	>0.05
	Posterior	0	0.0%	6	42.9%	

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	Total	4	100.0%	14	100.0%	
26-35 years	Anterior	2	22.2%	10	66.7%	<0.05
	Posterior	7	77.8%	5	33.3%	
	Total	9	100.0%	15	100.0%	

Table 5. The Relation of Placental Site (Right and Left) and Fetal Sex According to Maternal Age

Age	Location	Male		Female		P value
		No.	%	No.	%	
<20 years	Right	6	85.7%	0	0.0%	> 0.05
	Left	1	14.3%	1	100.0%	
	Total	7	100.0%	1	100.0%	
21-25 years	Right	2	50.0%	3	21.4%	> 0.05
	Left	2	50.0%	11	78.6%	
	Total	4	100.0%	14	100.0%	
26-35 years	Right	6	66.7%	7	46.7%	> 0.05
	Left	3	33.3%	8	53.3%	
	Total	9	100.0%	15	100.0%	

Table 6. The Relation of Placental Site (Right And Left, Anterior and Posterior) and Fetal Sex According to Maternal Gravidity

Gravida	**Placental location**	Male		Female		P value
		No.	%	No.	%	
	Right anterior	1	16.7%			
Primigravida	Right Posterior	2	33.3%			
	Left Anterior	3	50.0%			
	Total	6	100.00%			
Gravida 2	Right anterior	2	40.00%	1	7.7%	< 0.05
	Right Posterior	3	60.00%	2	15.40%	
	Left Anterior	0	0.00%	8	61.5%	
	Left Posterior	0	0.00%	2	15.40%	
	Total	5	100.00%	13	100.00%	
≥ 3 gravida	Right anterior	2	22.2%	4	23.50%	> 0.05

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Right Posterior	4	44.4%	3	17.60%
Left Anterior	0	0.00%	6	35.30%
Left Posterior	3	33.30%	4	23.50%
Total	9	100.00%	17	100.00%

Table 7. The Relation of Placental Site (Anterior and Posterior) and Fetal Sex According and Number of Pregnancies.

Gravida	**Placental location**	Male		Female		P value
		No.	%	No.	%	
Primigravida	Anterior	4	66.7%			
	Posterior	2	33.3%			
	Total	6	100.00%			
Gravida 2	Anterior	2	40.00%	9	69.20%	>0.05
	Posterior	3	60.00%	4	30.80%	
	Total	5	100.00%	13	100.00%	
≥3 gravida	Anterior	2	22.2%	10	58.80%	>0.05
	Posterior	7	77.8%	7	41.20%	
	Total	9	100.00%	17	100.00%	

Table 8. The Relation of Placental Site (Right and Left) and Fetal Sex According to Maternal Gravidity

Gravida	**Placental location**	Male		Female		P value
		No.	%	No.	%	
Primigravida	Right	3	50.00%			

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	Left	3	50.00%			
	Total	6	100.00%			
Gravida 2	Right	5	100.00%	3	23.1%	< 0.05
	Left	0	0.00%	10	76.9%	
	Total	5	100.00%	13	100.00%	
≥3 gravida	Right	6	66.70%	7	41.20%	>0.05
	Left	3	33.30%	10	58.80%	
	Total	9	100.00%	17	100.00%	

Table 9. The Relation of Placental Site (Right and Left, Anterior and Posterior) and Fetal Sex According to Maternal Parity.

Parity	**Placental location**	**Male**		**Female**		**P value**
		No.	%	No.	%	
	Right anterior	1	16.7%			
Nuliparity	Right Posterior	2	33.3%	0	0.00%	>0.05
	Left Anterior	3	50.0%	2	100.00%	
	Total	6	100.00%	2	100.00%	
Primipara	Right anterior	2	40.00%	1	9.1%	<0.05
	Right Posterior	3	60.00%	2	18.20%	
	Left Anterior	0	0.00%	6	54.5%	
	Left Posterior	0	0.00%	2	18.20%	
	Total	5	100.00%	11	100.00%	
≥2 parity	Right anterior	2	22.2%	4	23.50%	>0.05
	Right Posterior	4	44.4%	3	17.60%	
	Left Anterior	0	0.00%	6	35.30%	

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Left Posterior	3	33.30%	4	23.50%
Total	9	100.00%	17	100.00%

Table 10. The Relation of Placental Site (Anterior and Posterior) and Fetal Sex According to Maternal Age

Parity	**Placental location**	Male No.	%	Female No.	%	P value
Nuliparity	Anterior	4	66.7%	2	100.00%	>0.05
	Posterior	2	33.3%	0	0.00%	
	Total	6	100.00%	2	100.00%	
Primipara	Anterior	2	40.00%	7	63.60%	>0.05
	Posterior	3	60.00%	4	36.40%	
	Total	5	100.00%	11	100.00%	
≥2 parity	Anterior	2	22.2%	10	58.80%	>0.05
	Posterior	7	77.8%	7	41.20%	
	Total	9	100.00%	17	100.00%	

Table 11. The Relation of Placental Site (Right and Left) and Fetal Sex According to Maternal Parity.

Parity	**Placental location**	Male No.	%	Female No.	%	P value
Nuliparity	Right	3	50.00%	0	0.00%	>0.05
	Left	3	50.00%	2	100.00%	
	Total	6	100.00%	2	100.00%	
Primipara	Right	5	100.00%	3	27.3%	<0.05
	Left	0	0.00%	8	72.7%	
	Total	5	100.00%	11	100.00%	

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≥2 parity	Right	6	66.70%	7	41.20%	>0.05
	Left	3	33.30%	10	58.80%	
	Total	9	100.00%	17	100.00%	

Table 12. The Mean Crown Rump Length According to Fetal Sex and Gestational Age.

Gestational age		Sex of the Fetus	N	Mean	Std. Deviation	P value
6 week	**CRL (mm)**	**Male**	**12**	**4.83**	**1.3**	**> 0.05**
		Female	**15**	**4.87**	**0.91**	
7 week	**CRL (mm)**	**Male**	**8**	**10.5**	**0.92**	**< 0.05**
		Female	**15**	**7.8**	**3.6**	

Table 13. The Mean Fetal Heart Rate According to Fetal Sex and Gestational Age.

Gestational age		Sex of the Fetus	N	Mean	Std. Deviation	P value
6	**Fetal Heart Rate**	**Male**	**12**	**149**	**5.5**	**> 0.05**
		Female	**15**	**151**	**3.14**	
7	**Fetal Heart Rate**	**Male**	**8**	**148.5**	**2.3**	**< 0.05**
		Female	**15**	**146**	**4.6**	