



Results

Table (1): Comparison between infertile and fertile groups as regard age (years) and BMI (kg/ m²).

Studied group Demographic data	Infertile	fertile	Test of significance	
	Mean \pm SD	Mean \pm SD	t- value	p- value
Age((years)	23.6 \pm 2.7	23.3 \pm 1.9	1.6	> 0.05
BMI(kg/ m ²)	23 \pm 1.1	23.1 \pm 0.9	1.2	>0.05

Tables (1) shows Clinical criteria of both groups, there's no statistically difference between **infertile** and **fertile** women as regard mean age and mean BMI (P value > 0.05).

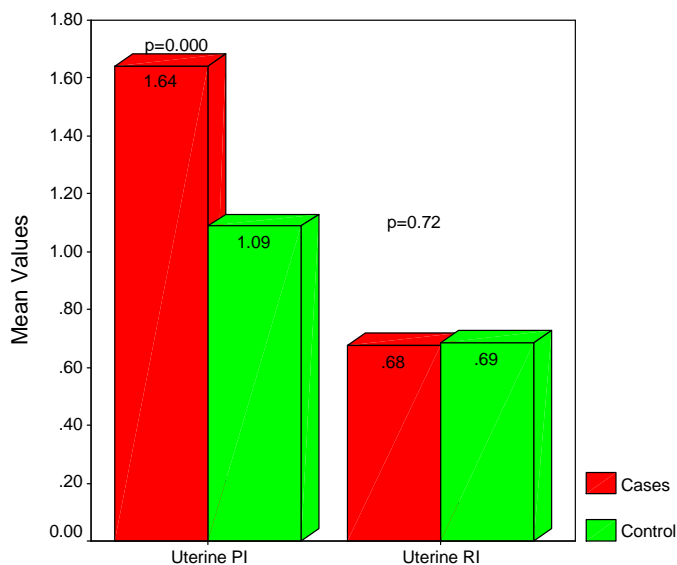


Results

Table (2): comparison between uterine arteries Doppler indices in infertile and fertile women:

Studied group indices	Infertile Mean \pm SD	Fertile Mean \pm SD	Test of significance	
			t- value	p- value
RI (RT+ LT.)	0. 69 \pm 0.11	0.68 \pm 0.07	0.35	0.72
PI (RT+ LT)	1.64 \pm 0.52	1.09 \pm 0.22	5.28	0.000

Table (2) shows that **infertile** women had a statistically significant **higher** mean pulsatility index of uterine arteries than fertile women (P value < 0.001).on the other hand there was no statistically significant difference between two groups regarding resistance index (P value > 0.5).



Comparison between cases & control groups as regard uterine (RI&PI).

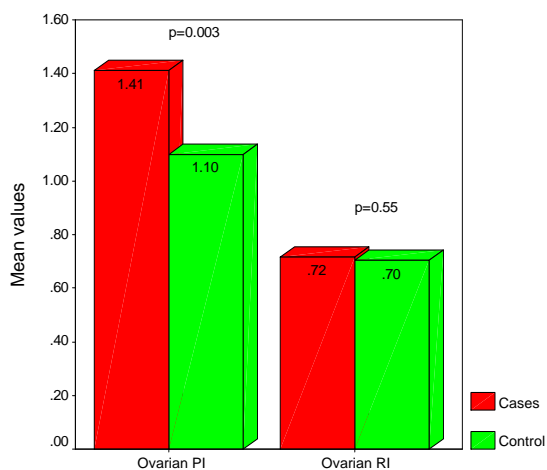


Results

Table (3): comparison between ovarian arteries Doppler indices in infertile and fertile women:

Studied group indices	Infertile Mean \pm SD	Fertile Mean \pm SD	Test of significance	
			t- value	p- value
RI (RT+ LT.)	0.72 \pm 0. 1	0.70 \pm 0.06	0.592	0.55
PI (RT+ LT)	1.41 \pm 0.52	1.10 \pm 0.18	3.11	0.003

Table (3) shows that **infertile** women had a statistically significant **higher** mean pulsatility index of ovarian arteries than fertile women (P value < 0.01).on the other hand there was no statistically significant difference between two groups regarding resistance index (P value > 0.5).



Comparison between cases & control groups as regard ovarian (RI&PI).



Results

Table (4): Area under the curve, cutoff values, sensitivity and specificity of uterine RI and PI indices:

Indices	AUC(95% CI) [#]	P-value	Cutoff points	sensitivity	specificity
RI	0.42(0.27-0.56)	0.29	0.657 ^a	53.3%	43.3%
PI	0.89(0.81-0.97)	0.000	1.21 ^a	83.3%	83.3%

[#] AUC (95%CI) = Area under the curve (95% Confidence interval) = accuracy

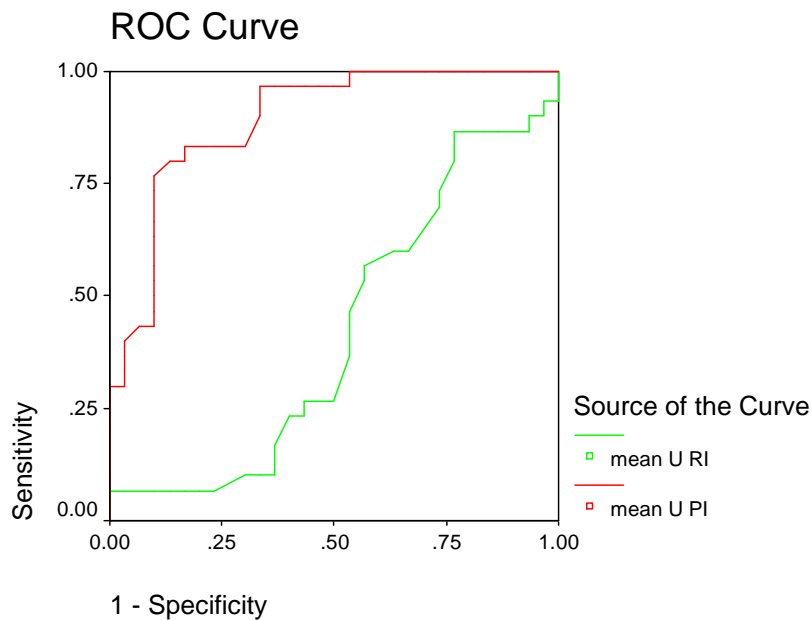
^a decrease blood flow if greater than,

The accuracy of uterine RI and PI for differentiation between infertile and fertile women as indicated from the area under the ROC curves was poor for RI and good for PI (0.42 and 0.89 respectively). Regarding RI, the sensitivity and specificity for detection of decreased blood flow at cutoff point 0.657 were 53.3% and 43.3% respectively and for PI at cutoff point of 1.21 were 83.3% and 83.3% respectively.



Results

ROC Curve (uterine)



Diagonal segments are produced by ties.

Area Under the Curve

Test Result Variable(s)	Area	Asymptotic Sig. ^b	Asymptotic 95% Confidence Interval	
			Lower Bound	Upper Bound
mean U PI	.891	.000	.809	.973
mean U RI	.421	.290	.272	.569

The test result variable(s): mean U PI, mean U RI has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

b. Null hypothesis: true area = 0.5



Results

Coordinates of the Curve

Test Result Variable(s)	Positive if Greater Than or Equal To ^a	Sensitivity	1 - Specificity
mean U PI	.9950	.967	.533
	1.0175	.967	.500
	1.0500	.967	.467
	1.0825	.967	.433
	1.1125	.967	.400
	1.1400	.967	.367
	1.1600	.967	.333
	1.1675	.900	.333
	1.1725	.833	.300
	1.1875	.833	.267
	1.2025	.833	.233
	1.2125	.833	.167
	1.2400	.800	.167
	1.2650	.800	.133
	1.2800	.767	.100
mean U RI	1.3050	.733	.100
	1.8075	.300	.000
	.6450	.600	.633
	.6525	.567	.567
	.6575	.533	.567
	.6625	.467	.533
	.6675	.433	.533
	.6775	.367	.533
	.6925	.267	.500
	.7025	.267	.433
	.7075	.233	.433
	.7125	.233	.400
	.7175	.167	.367

The test result variable(s): mean U PI, mean U RI has at least one tie between the positive actual state group and the negative actual state group.

- a. The smallest cutoff value is the minimum observed test value minus 1, and the largest cutoff value is the maximum observed test value plus 1. All the other cutoff values are the averages of two consecutive ordered observed test values.

(U) Uterine



Results

Table (5): Area under the curve, cutoff values, sensitivity and specificity of ovarian RI and PI indices:

Indices	AUC(95%CI) [#]	P-value	Cutoff points	sensitivity	specificity
RI	0.54(0.39-0.70)	0.52	0.717 ^a	50.0%	50.0%
PI	0.67(0.53-0.81)	0.02	1.16 ^a	66.7%	63.3%

[#] AUC (95%CI) = Area under the curve (95% Confidence interval) = accuracy

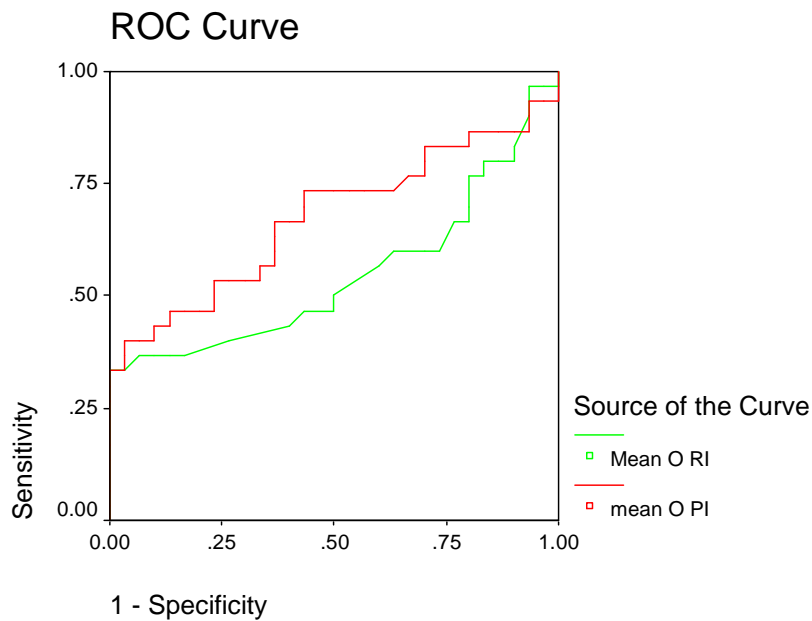
^a decrease blood flow if greater than,

The accuracy of ovarian RI and PI for differentiation between infertile and fertile women as indicated from the area under the ROC curves was poor for RI and good for PI (0.54 and 0.67 respectively). Regarding RI, the sensitivity and specificity for detection of decreased blood flow at cutoff point 0.717 were 50.0% for both and for PI at cutoff point of 1.16 were 66.7% and 63.3% respectively.



Results

ROC Curve (ovarian)



Diagonal segments are produced by ties.

Area Under the Curve

Test Result Variable(s)	Area	Asymptotic Sig. ^b	Asymptotic 95% Confidence Interval	
			Lower Bound	Upper Bound
mean O PI	.674	.021	.534	.814
Mean O RI	.548	.525	.395	.701

The test result variable(s): mean O PI, Mean O RI has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

b. Null hypothesis: true area = 0.5



Results

Coordinates of the Curve

Test Result Variable(s)	Positive if Greater Than or Equal To ^a	Sensitivity	1 - Specificity
mean O PI	1.1500	.667	.433
	1.1575	.667	.400
	1.1650	.667	.367
	1.1725	.633	.367
	1.1800	.600	.367
	1.1950	.567	.367
	1.2075	.567	.333
	1.2275	.533	.333
	1.2475	.533	.300
	1.2525	.533	.267
	1.2650	.533	.233
Mean O RI	.6725	.767	.800
	.6775	.700	.800
	.6825	.667	.800
	.6875	.667	.767
	.6950	.600	.733
	.7025	.600	.700
	.7075	.600	.633
	.7125	.567	.600
	.7175	.500	.500
	.7225	.467	.500
	.7275	.467	.433
	.7350	.433	.400

The test result variable(s): mean O PI, Mean O RI has at least one tie between the positive actual state group and the negative actual state group.

- a. The smallest cutoff value is the minimum observed test value minus 1, and the largest cutoff value is the maximum observed test value plus 1. All the other cutoff values are the averages of two consecutive ordered observed test values.

(O) Ovarian



Results

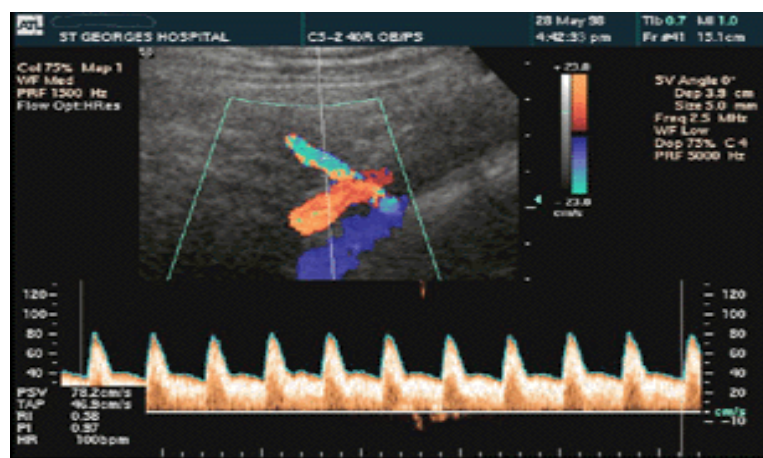


Figure (9): Uterine artery PI and RI in fertile women

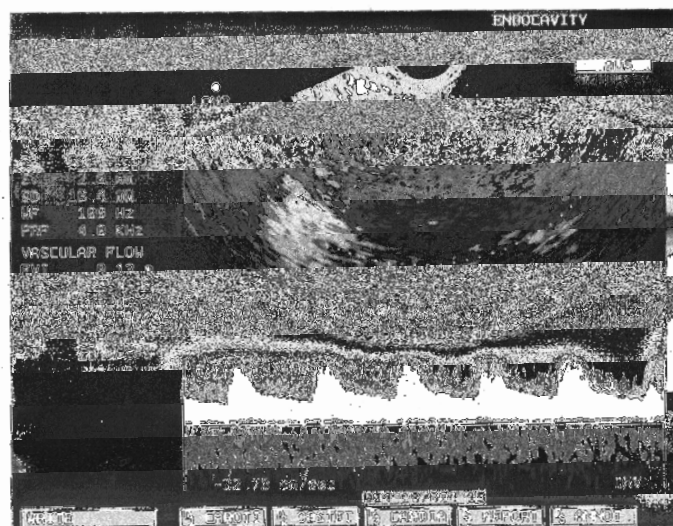


Figure (10): Uterine artery PI and RI in infertile women



Results

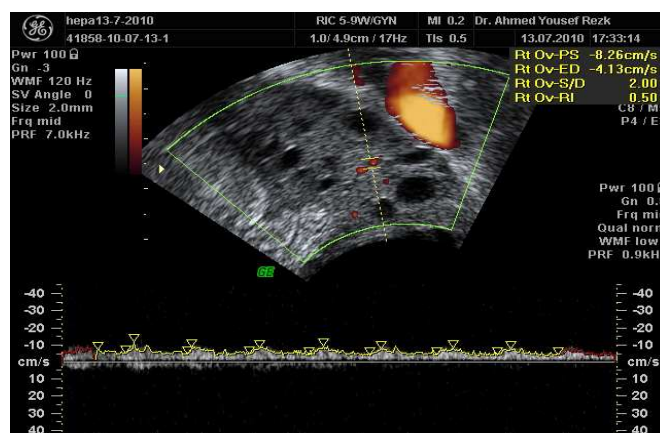


Figure (11): Ovarian artery PI and RI in fertile women.

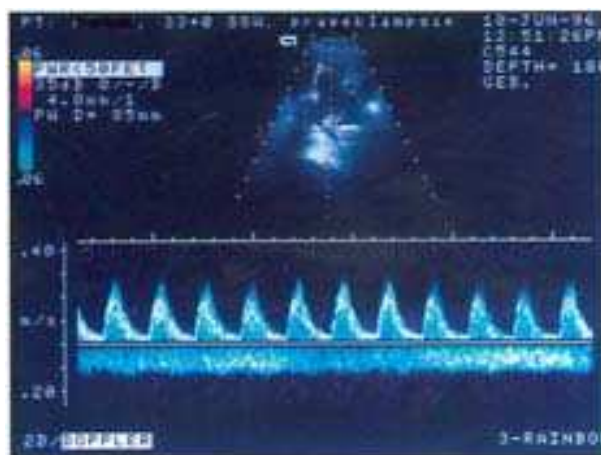


Figure (12): Ovarian artery PI and RI in infertile women.