

Supplementary Table 1. Diagnostic performance of Grayscale sonography using ATA thyroid sonographic patterns compared to histopathology and association between gender and lesion type.

VLSR+ Low Risk - Benign

Intermediate Risk + High Suspicious Risk -Malignant

		HPE		Gender		Total
		Benign	Malignant	Male	Female	
ATA	Benign	26 (86.67%)	4 (13.33%)	49 (13.3%)	26 (86.67%)	30 (44.78%)
	Malignant	22 (59.46%)	15 (40.54%)	9 (24.32%)	28 (75.68%)	37 (55.22%)
Gender	Male	9 (18.75%)	5 (26.32%)			14
	Female	39 (81.25%)	14 (73.68%)			53
Total		48 (71.64%)	19 (28.36%)	13	54	67

Out of 48 benign nodules 39 (81%) nodules were in females; 9 (18.8%) nodules were in males.

Out of 19 malignant nodules 14 (73.7%) nodules were in females; 5 (26.3%) nodules were in males.

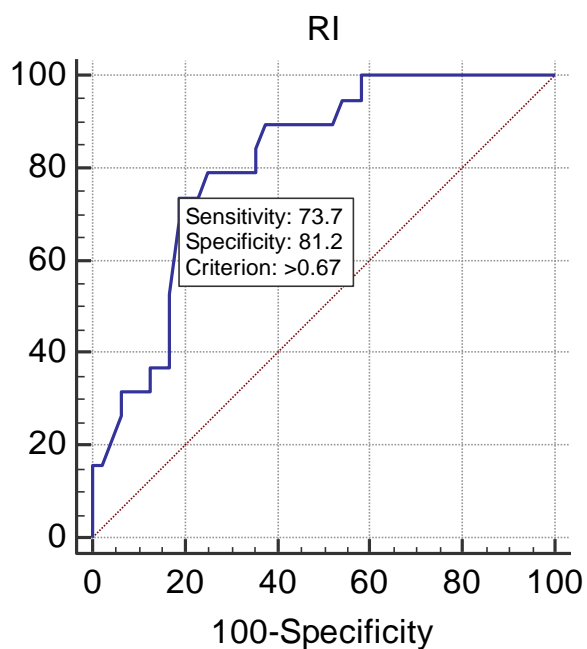
Sensitivity	78.947%	54.435% to 93.948%
Specificity	54.167%	39.172% to 68.628%
AUC	0.666	0.540 to 0.776
Positive Likelihood Ratio	1.722	1.172 to 2.532
Negative Likelihood Ratio	0.389	0.157 to 0.964
Disease prevalence	28.358%	18.015% to 40.691%
Positive Predictive Value	40.541%	31.684% to 50.059%
Negative Predictive Value	86.667%	72.372% to 94.162%
Accuracy	61.194%	48.502% to 72.863%

Wt kappa value 0.257

Spectral Doppler Parameters: PI, RI

I} Evaluation of distribution of RI among benign and malignant lesions with ROC curve:

ROC Curve Analysis



Area under the ROC curve (AUC)

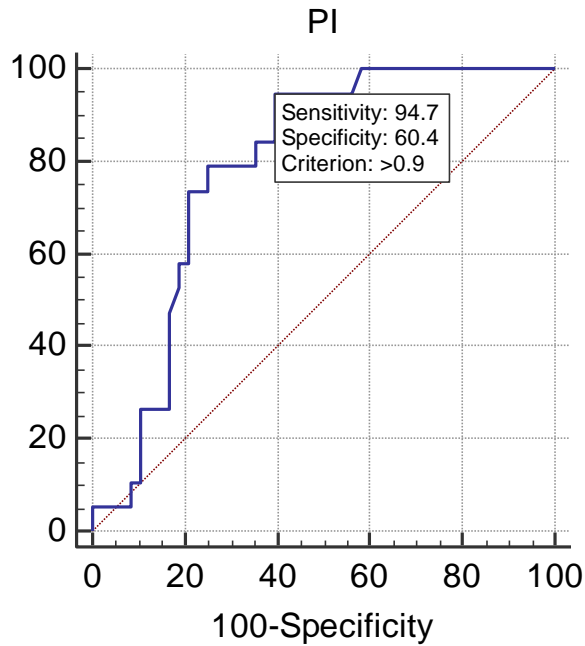
Area under the ROC curve (AUC)	0.813
95% Confidence interval	0.698 to 0.897
Significance level P (Area=0.5)	<0.0001

Optimum cut off	>0.67
Sensitivity	73.68
Specificity	81.25
PPV	60.90
NPV	88.60

ROC curve analysis showing the cut-off of RI for Benign and Malignant lesions is 0.67

II) Evaluation of distribution of PI among benign and malignant lesions with ROC curve:

ROC Curve Analysis:



Area under the ROC curve (AUC)

Area under the ROC curve (AUC)	0.788
95% Confidence interval	0.671 to 0.879
Significance level P (Area=0.5)	<0.0001

Optimum cut off	>0.9
Sensitivity	94.74
Specificity	60.42
PPV	48.60
NPV	96.70

ROC curve analysis revealed the cut-off of PI to differentiate Benign and Malignant lesions is > 0.90.

Supplementary Table 2. Diagnostic performance of combined Grayscale sonography and doppler sonography using ATA thyroid sonographic patterns and RI.

VLSR+ Low Risk - Benign

Intermediate Risk+High Suspicious Risk+Ri -Malignant

		HPE		Total
		Benign	Malignant	
ATA	Benign	23 (92%)	2 (8%)	25 (37.31%)
	Malignant	25 (59.52%)	17 (40.48%)	42 (62.69%)
Total		48 (71.64%)	19 (28.36%)	67

Sensitivity	89.474%	66.862% to 98.699%
Specificity	47.917%	33.287% to 62.813%
AUC	0.687	0.562 to 0.795
Positive Likelihood Ratio	1.718	1.257 to 2.347
Negative Likelihood Ratio	0.220	0.057 to 0.842
Disease prevalence	28.358%	18.015% to 40.691%
Positive Predictive Value	40.476%	33.230% to 48.162%
Negative Predictive Value	92.000%	75.000% to 97.782%
Accuracy	59.701%	47.004% to 71.513%

Wt kappa value 0.274