

SUPPLEMENTARY MATERIAL

Utility of pleural fluid biomarkers in differentiating malignant and benign pleural effusion: a cross-sectional study

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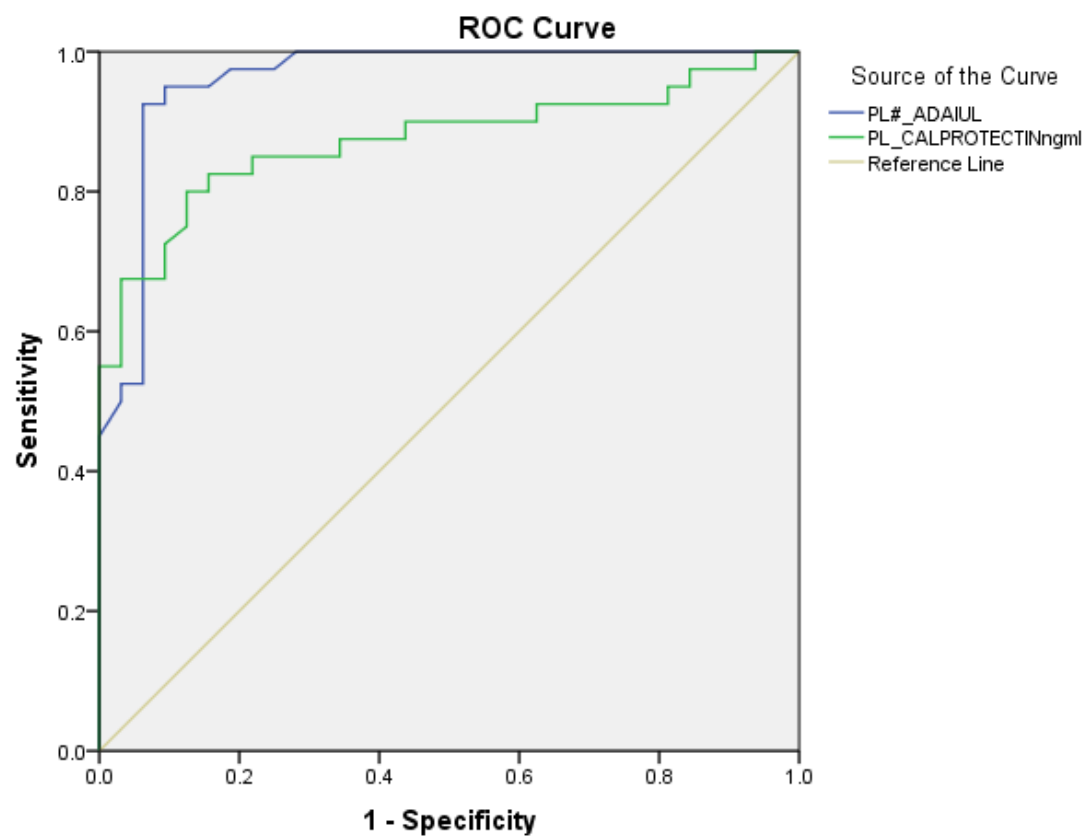
Key words: biomarkers, cancer ratio, calprotectin, CEA, pleural effusion.

Supplementary Table 1. Receiver operating characteristic curve of Serum LDH(IU/L), PL. ADA(IU/L), PL. CEA(ng/mL), PL. CA 125(U/mL), cancer ratio, CR plus, PL. Calprotectin(ng/mL), Age/ADA and S.LDH/PL. Calprotectin for predicting malignancy.

Variables	Serum LDH(IU/L)	PL. ADA(IU/L)	PL. CEA(ng/mL)	PL. CA 125(U/mL)	Cancer ratio	PL. Calprotectin (ng/mL)	Age/ADA	S.LDH/PL. Calprotectin
Area under the ROC curve (AUC)	0.851	0.9	0.984	0.673	0.976	0.872	0.906	0.937
Standard error	0.0429	0.0339	0.0112	0.0596	0.0149	0.043	0.0318	0.0263
95% confidence interval	0.756 to 0.920	0.815 to 0.955	0.928 to 0.999	0.561 to 0.772	0.915 to 0.997	0.780 to 0.935	0.822 to 0.959	0.861 to 0.979
p	<0.0001	<0.0001	<0.0001	0.0037	<0.0001	<0.0001	<0.0001	<0.0001
Cut-off	>235	≤30.6	>1.96	>842	>9.09	≤303	>1.56	>0.73
Sensitivity(95% CI)	87.5% (73.2-95.8%)	92.5% (79.6-98.4%)	95% (83.1-99.4%)	50% (33.8-66.2%)	95% (83.1-99.4%)	80% (64.4-90.9%)	97.5% (86.8-99.9%)	87.5% (73.2-95.8%)
Specificity(95% CI)	74.42% (58.8-86.5%)	79.07% (64.0-90.0%)	97.67% (87.7-99.9%)	83.72% (69.3-93.2%)	95.35% (84.2-99.4%)	88.37% (74.9-96.1%)	69.77% (53.9-82.8%)	90.7% (77.9-97.4%)
PPV(95% CI)	76.1% (61.2-87.4%)	80.4% (66.1-90.6%)	97.4% (86.5-99.9%)	74.1% (53.7-88.9%)	95% (83.1-99.4%)	86.5% (71.2-95.5%)	75% (61.1-86.0%)	89.7% (75.8-97.1%)
NPV(95% CI)	86.5% (71.2-95.5%)	91.9% (78.1-98.3%)	95.5% (84.5-99.4%)	64.3% (50.4-76.6%)	95.3% (84.2-99.4%)	82.6% (68.6-92.2%)	96.8% (83.3-99.9%)	88.6% (75.4-96.2%)
Diagnostic accuracy	80.72%	85.54%	96.39%	67.47%	95.18%	84.34%	83.13%	89.16%

Supplementary Table 2. ROC curve analysis for different parameters for differentiating malignant pleural effusion from tubercular pleural effusion.

	AUC	95% CI	p	Critical cut-off value	Sensitivity	Specificity
PL. ADA	0.960	0.915-1.000	<0.001 (S)	≤30.75	92.5%	93.7%
PL. CEA	0.983	0.958-1.000	<0.001 (S)	≥1.99	95%	100%
PL. CA 125	0.687	0.564-0.810	0.007 (S)	≥670	57.5%	88.1%
CANCER RATIO	0.997	0.990-1.000	<0.001 (S)	≥9.21	95%	100%
CR plus	0.997	0.990-1.000	<0.001 (S)	>10.21	97.5%	100%
PL. CALPROTECTIN	0.873	0.789-0.957	<0.001 (S)	≤352.72	82.5%	84.6%
AGE / ADA	0.975	0.947-1.000	<0.001 (S)	≥1.85	87.5%	93.7%
S.LDH/PL.CALPROTECTIN	0.941	0.888-0.993	<0.001 (S)	≥0.75	87.5%	93.7%



Diagonal segments are produced by ties.

Supplementary Figure 1. ROC curve of pleural ADA and calprotectin for predicting malignancy from tubercular effusion.