PPROM: prediction from fetal membrane thickness

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Objective

To evaluate whether the ultrasound measurement of the fetal membranes thickness (FMT) is a good predictor for premature rupture of membranes (PROM) and preterm PROM.

Methods

Two hundred and thirteen women with a singleton pregnancy who referred to Hafez Hospital Perinatology Centre of Shiraz University of Medical Sciences at gestational age between 18 and 35 weeks were included in the study. Data analysis was done to determine whether this method is useful for prediction of PROM and preterm PROM. The best cut-off value for the thickness of the membrane was determined by the receiver-operating.

Results

For the cut-off value of 1. 45 mm that indicated by the ROC curve, the sensitivity and specificity of the FMT measurement as a predictor for PROM were 82. 4% (95% CI: 69. 1-91. 6) and 61. 7% (95% CI: 53. 8 - 69. 2), respectively. The positive and negative predictive value were 40. 4% and 91. 7%, respectively. And for prediction of preterm PROM the sensitivity, specificity, positive and negative predictive value were 90%, 60%, 33. 7% and 96. 3%, respectively.

Conclusion

Ultrasound measurement of fetal membrane thickness in healthy singleton pregnancy might be noninvasive useful technique for predicting the possibility to develop PROM and PPROM.

Table 1.

FMT categories	PROM		Total
	No	Yes	
< 1.45 mm	100 (91.7%)	9 (8.3%)	109 (100%)
≥1.45 mm	62 (59.6%)	42 (40.4%)	104 (100%)

Table 2.

FMT categories	PROM		Total
	No	Yes	
< 1.45 mm	105 (96.3%)	4 (3.7%)	109 (100%)
≥1.45 mm	69 (66.3%)	35 (33.7%)	104 (100%)

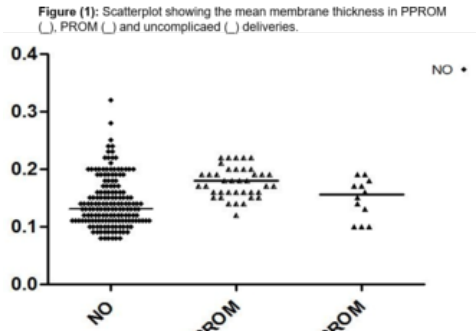

Figure (1): Scatterplot showing the mean membrane thickness in PPROM (_), PROM (_) and uncomplicaed (_) deliveries.