

SECOND TRIMESTER ASSESSMENT OF ANTERIOR UTERO-CERVICAL ANGLE AND CERVICAL GLANDULAR AREA IN PREDICTION OF PRE-TERM LABOUR

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Introduction

Preterm birth (PTB) refers to a labour that occurs between 20 and 37 weeks of gestation. Since prematurity is the primary cause of prenatal illness and mortality worldwide, it continues to be a global wellness issue. Moreover, it is the most prevalent illness that needs to be hospitalized during pregnancy. Transvaginal ultrasonography is an effective and very dependable technique for determining of anterior uterocervical angle and cervical glandular area in prediction of preterm labour. Between the ages of 18 and 22 weeks gestation, the detection rate of CGA remains very stable at 90%. The absence of these glands in the second trimester may indicate preterm delivery. An extra predictor of spontaneous PTB is the idea of measuring the anterior uterocervical angle (ACA) ultrasonographically. A broad aUCA $\geq 105^\circ$ seen in the second trimester was linked to a higher risk of preterm labour.

Aim of the work

The aim of the present study is to determine the significance of anterior uterocervical angle and absence of cervical glandular area sonographic markers being evaluated at mid trimester scan between 18 to 22 weeks of gestation in prediction of occurrence of preterm labour.

Patients and Methods

This was a prospective cohort study performed in Shatby Maternity University Hospital. The Total sample size of 50 patients with risk factors of preterm labour then will be followed up till delivery. Patient was between 18-22 weeks of pregnancy by TVUS with maternal age 18-35years with BMI (20-35) Kg/m2. Must be multiparity with singleton gestations having risk factors of PTL as history of previous preterm labours or midtrimesteric abortions. After taking history and examination transvaginal ultrasound at 18-22weeks would be inserted gently till it reached the anterior fornix while avoiding undue pressure. The anterior uterocervical angle was defined as the angle measured between the lower uterine segment and the cervical canal. A straight line would be traced between the external os and the internal os, including the isthmus. Another line, 3 cm long, would be traced parallel to the lowest part of the anterior uterine wall. The angle created by the intersection of the two lines (aUCA) would be measured. An anterior UCA $\geq 105^\circ$ on any single measurement would be the cutoff value. The cervical gland area was defined as a hyperechoic or hypoechoic zone around cervical canal which corresponds to histological CGA. If the hypoechogenic or echogenic area around the cervical canal was visualized, the presence of CGA would have been established.

Results

The combination of AUCA and CGA in prediction of preterm deliveries. We have come to the result of the combination has shown the sensitivity 97%, specificity 93% and accuracy 94% with P value 0.0001.

Table (1): Sensitivity, specificity and accuracy of anterior uterocervical angle in prediction the duration of gestation.

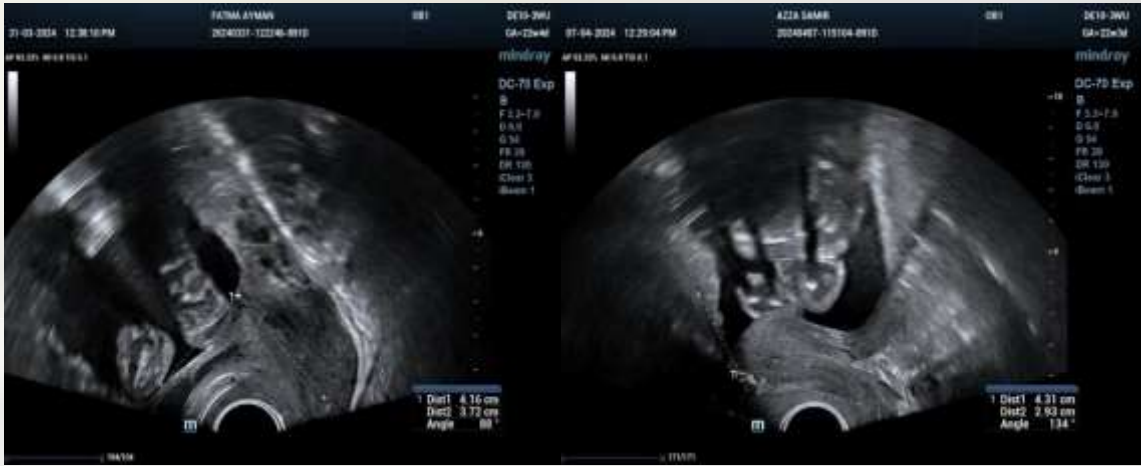
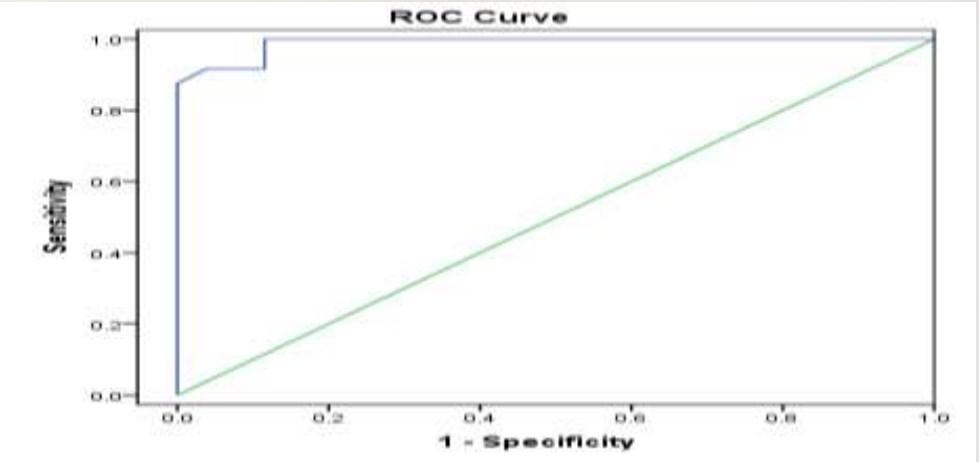
Area	Cut off value	P value	Asymptotic 95% Confidence Interval	
			Lower Bound	Upper Bound
.949	105.0	0.001*	.895	1.000
Sensitivity	93.0			
Specificity	87.0			
Accuracy	89.3			

Table (2) Sensitivity, specificity and accuracy of Cx glandular area in prediction the duration of gestation

Area	Cut off value	Asymptotic Sig.	Asymptotic 95% Confidence Interval	
			Lower Bound	Upper Bound
0.881	1 “present”	0.013	.777	.985
Sensitivity	85.0			
Specificity	81.0			
Accuracy	84.0			

Table (3): Sensitivity, specificity and accuracy of anterior uterocervical angle and Cx glandular area in prediction termination of pregnancy.

Area	P value	Asymptotic 95% Confidence Interval	
		Lower Bound	Upper Bound
.990	0.0001	.971	1.000
Sensitivity	97.0		
Specificity	93.0		
Accuracy	94.0		



- Transvaginal U/S shows anterior uterocervical angle is 88 and present cervical glandular area
- Transvaginal U/S shows anterior uterocervical angle is 134 and absent cervical glandular area

Conclusion

We conclude that AUCA serves as a pivotal marker in forecasting preterm labour with a threshold value 105 between 18- 22weeks of gestation. The absence of GCA emerges as a robust indicator of spontaneous preterm labour. Combining AUCA and GCA demonstrate exceptional specificity and sensitivity, making it a highly reliable approach for predicting preterm labour.