UNEXPLAINED ELEVATED MID-TRIMESTER MATERNAL SERUM ALPHA FETO-PROTEIN AS A PREDICTOR OF EARLY ONSET PRE-ECLAMPSIA

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INTRODUCTION

Alpha-fetoprotein (AFP) which is framed by the fetal yolk sac and the fetal liver is a glycoprotein delivered during pregnancy and crosses the placental boundary; An expanded degree of maternal serum AFP (MSAFP) is related with expanding hazard of pregnancy inconveniences as intrauterine development limitation (IUGR), and toxemia.

Serum AFP fixations decline quickly after birth and during the second year of life. From there on, just follow sums are typically identified in serum. The lower furthest reaches of AFP fixation in typical solid grown-ups, non-pregnant is under 1 IU/mL; as far as possible is around 10 IU/mL**.**

By 12-fourteenth long stretches of growth, AFP fixation in the fetal blood serum arrives at up to 10 mg/ml. After conveyance, AFP in blood levels diminishes to 0.1 mg/ml and in typical grown-ups, it could be seen as just at extremely low focuses (5-10 ng/dL).

Raised second trimester MSAFP relationship between typical embryos chromosomally and the improvement of pre-eclampsia was first detailed by Gordon in 1978**.**

13% of ladies with raised MSAFP were noted to foster pre-eclampsia contrasted with 1% of the ladies with ordinary MSAFP**.**

AIM OF THE WORK

The point of the current review was to assess the unexplained raised mid-trimester maternal serum alpha-fetoprotein at 22 weeks of development and its connection as an indicator of beginning stage of toxemia < 34 weeks of incubation.

SUBJECTS AND METHODS

PATIENTS: Inclusion criteria:

1.Age group of <35 years.
2.Singleton pregnancies.
3.Gestational age of 22 weeks.
4.Known reliable last menstrual period.

Exclusion criteria:

1.Patients with chronic medical diseases like diabetes, hypertension, chronic renal disease, hysteromyoma, antiphospholipidsyndrome, cystic salpinx, intrahepatic cholestasis of pregnancy and family history diseases.
2.Multiple pregnancy.
3.BMI <34 kg/m^2.

METHODS:

1.A fresh venous blood sample (3-5 ml in amount) will be collected under aseptic precautions at 22 weeks of gestation.
2.Measurement of maternal serum alpha-fetoprotein (MSAFP) will be performed by IMMUNOASSAY technique done in a single laboratory and by an experienced pathologist using a 2.0–2.5 multiples of the median (MoM) as the upper limit of normal maternal serum alpha-fetoprotein level.
3.All the pregnancies will be followed up regularly by ultrasound till delivery for maternal and fetal outcome. Abnormal maternal outcomes in terms of preeclampsia / eclampsia will be noted as a prediction.

RESULTS

Table 1: Relation between abnormal maternal outcome and blood pressure.

	Abnormal maternal outcomes			F P value
	No high MSAFP or preeclampsia	Normal MSAFP & preeclampsia	High MSAFP & preeclampsia	
Systolic blood pressure				
Range	110.0-135.0	141.0-175.0	146.0-175.0	163.24
Mean	123.57	156.21	163.40	0.0001*
S.D.	7.68	9.92	10.55	
Diastolic blood pressure				
Range	65.0-85.0	90.0-125.0	94.0-125.0	160.54
Mean	74.60	109.76	108.90	0.0001*
S.D.	5.93	11.64	10.45	

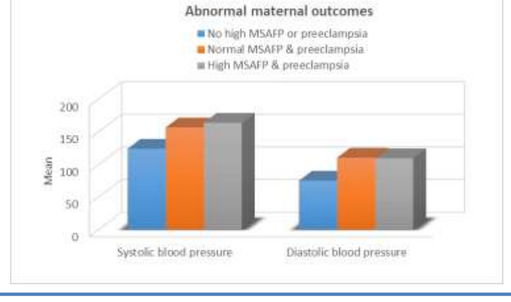

Figure 1: Relation between abnormal maternal outcome and blood pressure.

Table 2: Sensitivity, specificity and accuracy of serum alpha fetoprotein and protein / creatinine ratio in predict the preeclampsia.

Test Result Variable(s)	Area	Cut off value	P value	Asymptotic 95% C.I.		Sensitivity	Specificity	Accuracy
				Lower Bound	Upper Bound			
Serum alpha fetoprotein	.916	182.0	0.001*	.858	.975	94.0	90.0	91.0
Protein/creatinine ratio	.905	0.33	0.001*	.838	.972	88.0	92.0	90.0

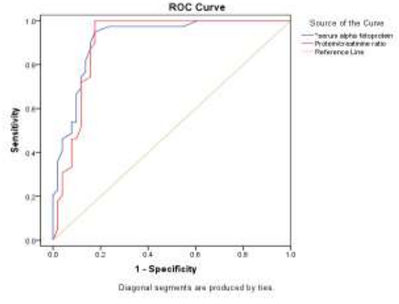

Figure 2: Sensitivity, specificity and accuracy of serum alpha fetoprotein and protein / creatinine ratio in predict the preeclampsia

CONCLUSION

- Present review shows, unexplained raised MSAFP level has high awareness, particularity, positive prescient worth and negative prescient worth in foreseeing unfavorable pregnancy result. Its estimation is effectively available and safe.
- At mid-trimester, serum AFP might end up being more helpful assuming that it measure in blend with other biomarkers in distinguishing pregnancies at high gamble of early PE requiring conveyance < 32 weeks. Protein / creatinine proportion proportions are solid indicators of 24-hour pee in constant ailments.