

ECHOCARDIOGRAPHIC EPICARDIAL FAT THICKNESS AS A PREDICTOR FOR RECURRENCE OF PREGNANCY-INDUCED HYPERTENSION IN EGYPTIANS



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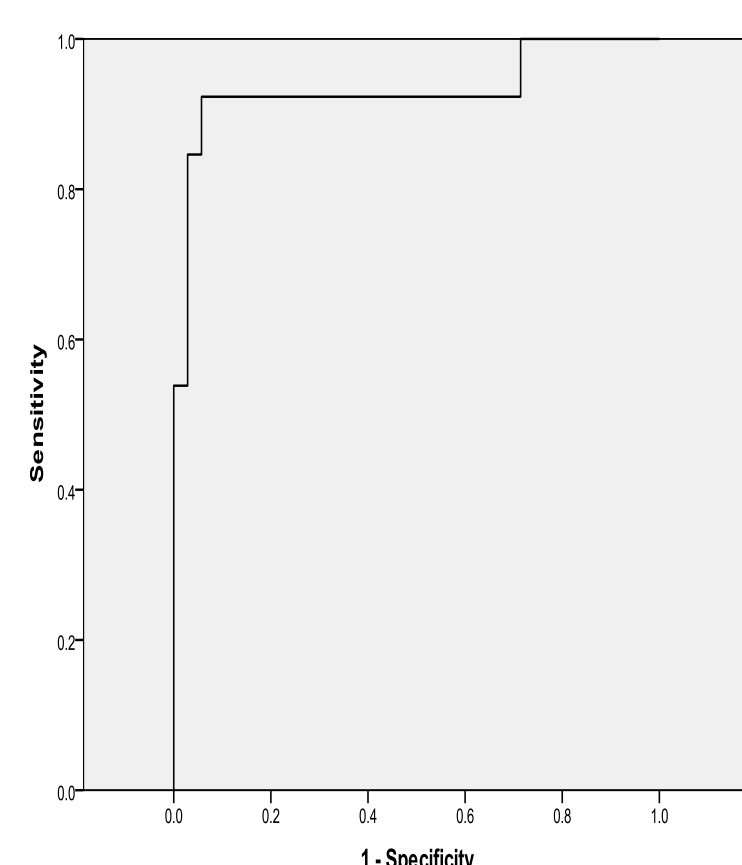
Background

- ❖ Pregnancy-induced hypertension is one of the most common complications and the first cause of morbidity & mortality in pregnant women. It is associated with metabolic disturbances such as lipolysis, hyperlipidemia, and vascular disease.
- ❖ Fibronectin is a plasma marker originating from embryonic and regenerating or injured tissues, which is significantly higher in hypertensive pregnancies.
- ❖ Epicardial fat tissue (EFT) is a cardiometabolic risk factor that may be linked to hypertension. Limited studies reported EFT correlation with the severity of preeclampsia. Our cohort studies the value of plasma FN and EFT as non-invasive markers for early screening for first occurrence or recurrence of PIH in Egyptian pregnant women.

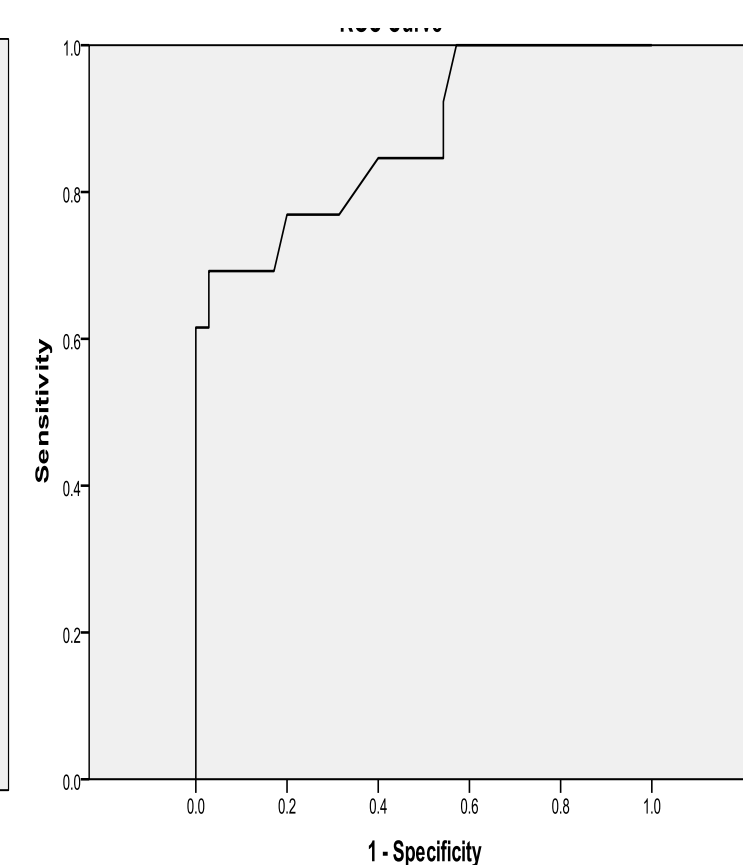
METHOD

- ❖ Prospective observational study where 48 pregnant patients were included (Thirty-three with a previous history of PIH and fifteen primigravid women were recruited in the 2nd trimester).
- ❖ Serial laboratory assessment, including 2nd and 3rd trimester FN level, a complete transthoracic echocardiographic assessment, and echocardiographic EFT measurement were performed. The included candidates were followed up two months postpartum for detection of PIH.

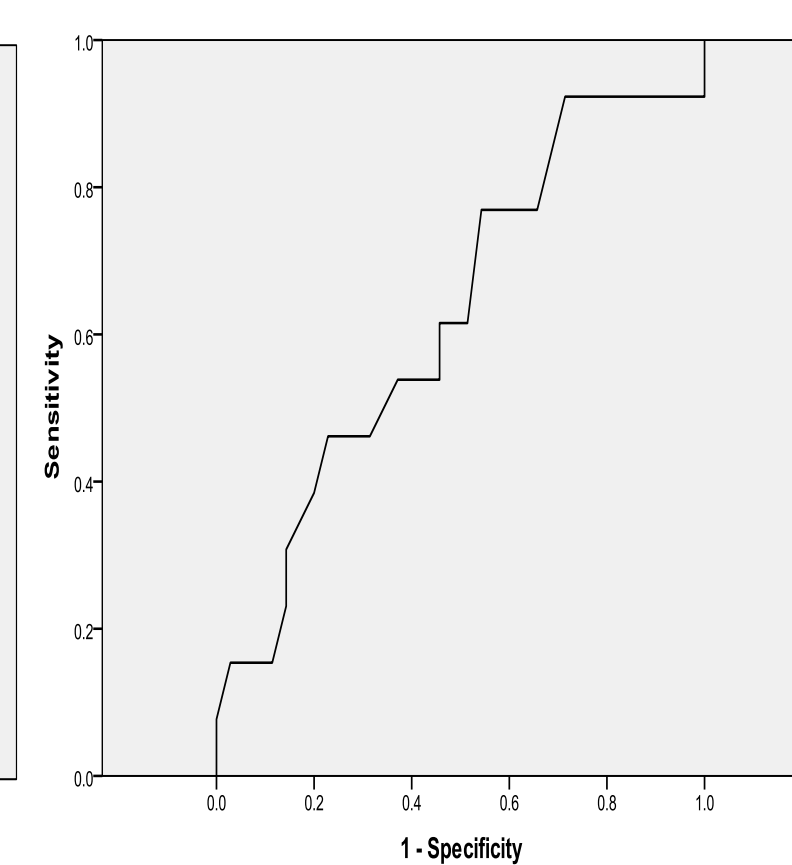
	AUC	Cutoff value	Sensitivity	Specificity	PPV	NPV
2nd Trim FN	0.93	345	92.3	94.3	85.7	97.1
3rd Trim FN	0.87	351	84.6	60	44	91.3
EFT	0.62	0.22	77	43	33.3	83.3



2nd Trimester Fibronectin



3rd Trimester Fibronectin



EFT

RESULTS

- ❖ Thirteen patients had PIH during the current pregnancy (four primigravid & nine women with a previous history of PIH).
- ❖ FN levels at 2nd and 3rd trimesters confirmed their value for early detection of PIH (sensitivity 92.3%, 84.6%, and specificity 94.3%, 60%, respectively).
- ❖ EFT was significantly higher in women with a history of PIH in a previous pregnancy than the primigravid women (P<0.001).
- ❖ Although there was a moderate positive correlation between plasma FN and EFT (r=0.319, P=0.27), EFT failed to show any predictive values for PIH early screening.

	PG (no=15)	Pregnant with previous PIH (no=33)	P value	Uncomplicated current pregnancies (no=35)	Complicated current pregnancies (no=13)	P value
Age (yr)	23.9 (±3.7)	28.67 (±5.5)	0.004	27.2 (±5.6)	27 (±5.2)	0.899
Weight(Kg)	68 (±11)	70 (±13)	0.597	69.03(±10.689)	69.15(±16.004)	0.975
BMI	26 (±3)	26.8 (±4)	0.341	26.3 (±3.9)	26.5 (±4)	0.878
EFT (cm)	0.19 (±0.03)	0.28(±.06)	<0.001	0.24 (±.06)	0.27 (±.07)	0.231
Septal mitral annulus peak E velocity (m/sec)	10.6 (±1.6)	11.8 (±1.7)	0.027	11.4 (±1.8)	11.5 (±1.7)	0.915
E/A	1.48 (±0.21)	1.41 (±0.2)	0.269	1.44 (±0.19)	1.4 (±0.2)	0.813
MV peak A velocity (m/sec)	0.69 (±0.13)	0.69 (±0.16)	0.915	0.69 (±.16)	0.68 (±0.11)	0.866
MV peak E velocity (m/sec)	1.00 (±0.15)	0.96 (±0.17)	0.319	0.98 (±0.17)	0.97 (±0.15)	0.726
LV mass (gm)	121 (±26)	136 (±32)	0.126	132 (±32)	130 (±28)	0.882
EF(%)	65 (±7)	67 (±6)	0.282	68 (±5.156)	62 (±6)	0.001

CONCLUSIONS

- ❖ Plasma FN can be used for early screening of PIH before clinical findings in primigravids as and in women with a history of previous PIH.

Keywords

pregnancy-induced hypertension, epicardial fat thickness, Fibronectin, early prediction