



Serum levels of secreted frizzled-related protein 4 (SFRP4) in patients with coronary artery disease

Presented by

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INTRODUCTION

1- Coronary artery disease, CAD

disease in which the walls of the arteries that supply the heart muscle, are stenosis or stenosis

2-SFRP4 (Secreted frizzled-related protein 4)

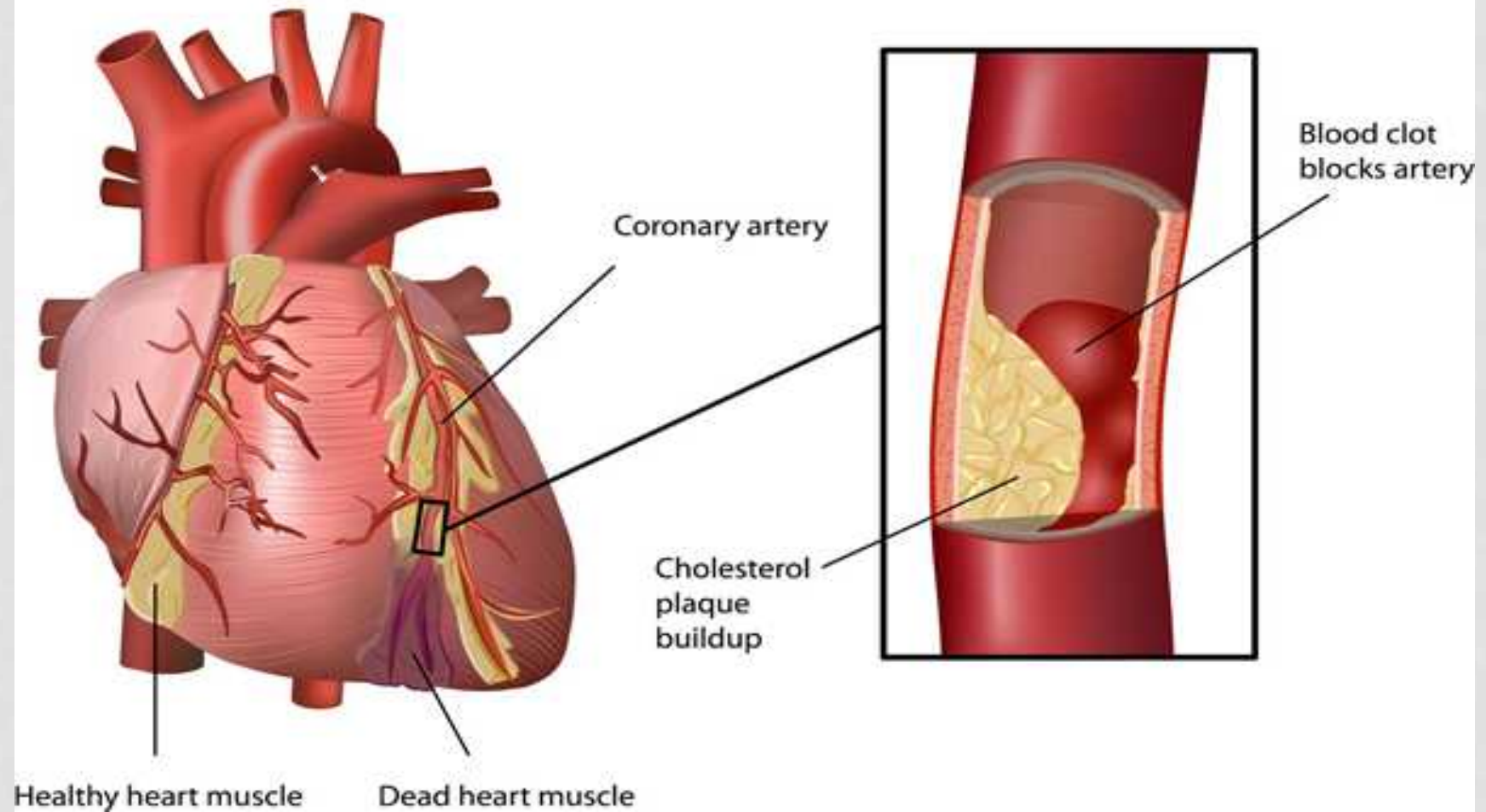
2-1- adipocytokine

2-2- Secreted by adipocytes and is involved in inflammatory processes

2-3- adipose tissue inflammation

2-4- adipose tissue is the main cardiovascular diseases because it increases (ox-LDL), decreased HDL cholesterol and hsCRP are increasing production.

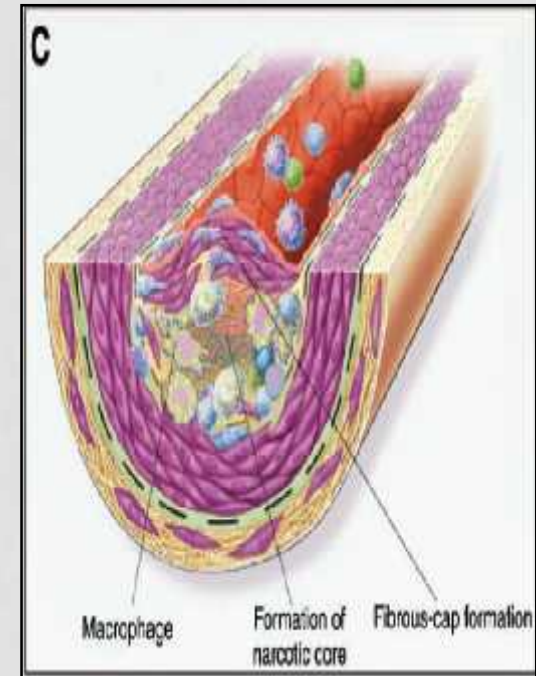
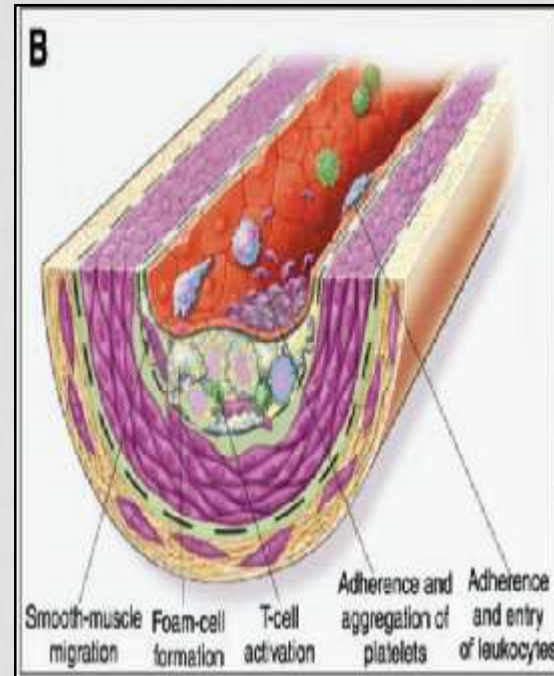
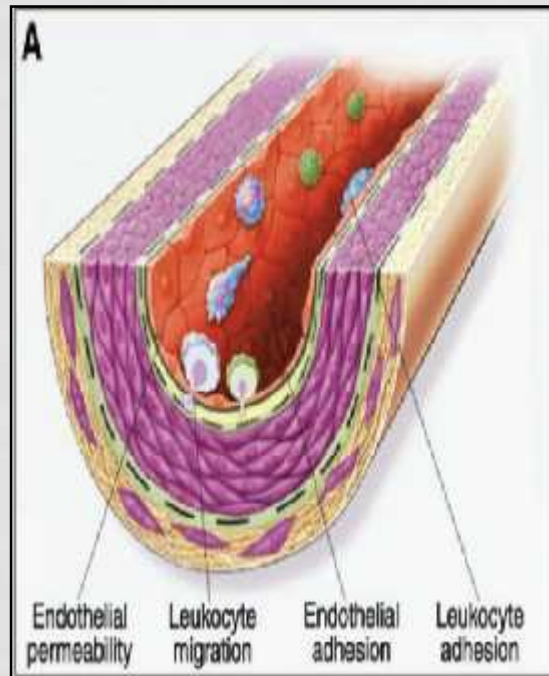
atherosclerosis



MATERIALS AND METHODS

The study population of people with suspected heart problems due to chest pains shahid Mostafa Khomeini Hospital in Ilam were visiting, were selected. By cardiologists and patients based on clinical criteria based on electrocardiographic and angiographic parameters were selected. The diagnosis by coronary artery disease (CAD) in eclipse over 50% (50% stenosis \geq) in at least one of the main coronary arteries. Controls based on clinical parameters, ie angiographic coronary obstruction in less than 50% (50% $>$ stenosis) were chosen by cardiologists. The majority of coronary artery stenosis less than 10% (10% $>$ stenosis) .Control subjects were matched for age and sex of the patient.

ATHEROSCLEROTIC PLAQUE



PROTEIN ASSAY SFRP4

- SFRP4 concentration of serum or plasma were determined by an ELISA assay
- The kit (cloud-clone-corp) is a sandwich enzyme immunoassay for in vitro quantitative measurement of SFRP4 in human serum, plasma and other biological fluids.

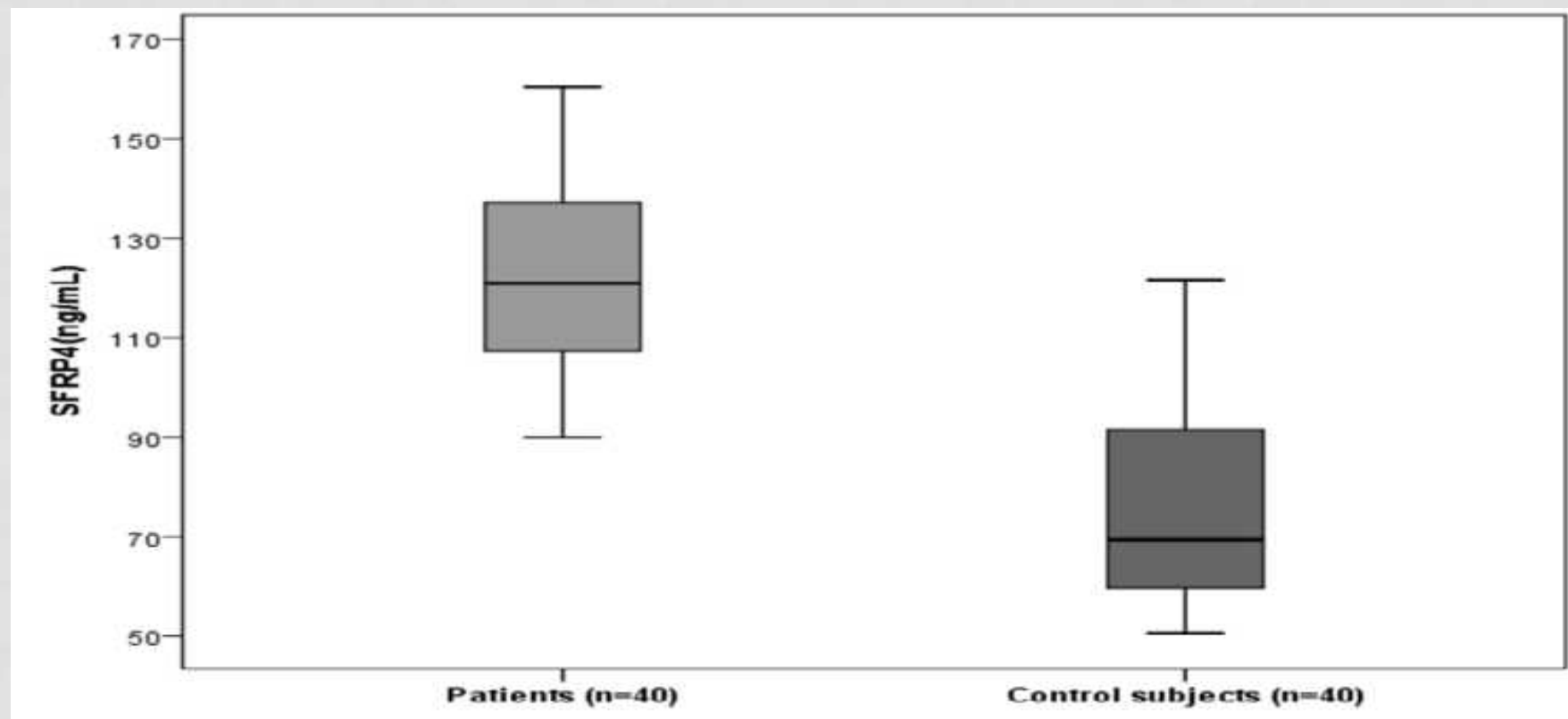
Reagents	Quantity	Reagents	Quantity
Pre-coated, ready to use 96-well strip plate	1	Plate sealer for 96 wells	4
Standard	2	Standard Diluent	1×20mL
Detection Reagent A	1×120μL	Assay Diluent A	1×12mL
Detection Reagent B	1×120μL	Assay Diluent B	1×12mL
TMB Substrate	1×9mL	Stop Solution	1×6mL
Wash Buffer (30 × concentrate)	1×20mL	Instruction manual	1

BIOCHEMICAL VARIABLES SUBJECTS

p value	patient	control	variable
0/08	192/9 ± 36/3	178/3 ± 47/0	Total cholesterol (mg/dL)
0/09	159/3 ± 80/5	147/4 ± 36/3	Tri glyceride(mg/dL)
0/008	109/4 ± 22/8	96/8 ± 27/5	LDL-C (mg/dL)
0/084	44/7 ± 9/6	46/1 ± 9/5	HDL-C (mg/dL)
0/01	2/86 ± 0/91	1/9 ± 0/96	hsCRP (mg/L)
0/001	122/50 ± 18/08	77/08 ± 21/86	SFRP4 (ng/mL)
0/001	83/43 ± 4/23	53/99 ± 3/47	Ox-LDL (ng/mL)

THE FINDINGS

- As has been shown in Figure (b), the SFRP4 in coronary artery disease patients is obviously higher than the control.

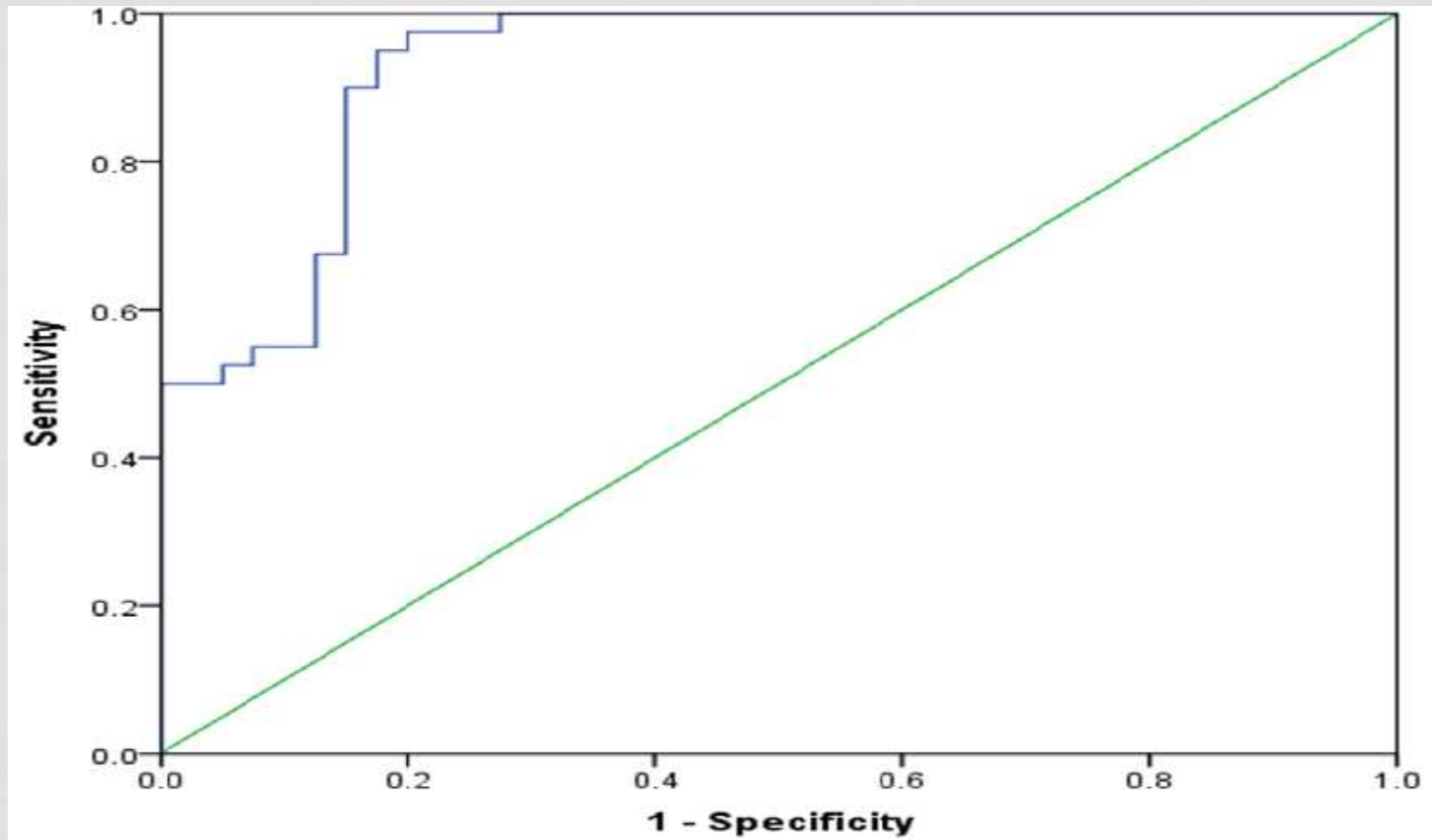


ROC

(RECEIVER-OPERATING CHARACTERISTIC)

- curve analysis ROC showed that serum levels SFRP4 higher than ng / mL 109.03 can be specificity of 85% and 70% of coronary artery disease patients from healthy individuals recognize ($P < 0.0001$).
- The ROC curve analysis to determine the amount of detection limit (cut off) SFRP4 to distinguish coronary artery disease than in healthy individuals. AUC is 0.925 (0.87 - 0.98, $P = 0.0001$).

ROC



DISCUSSION

- In the present study, we examined the SFRP4 a biomarker called serum. Based on the results of this protein SFRP4 compared to other risk factors in patients with coronary artery stenosis significantly increased. In addition, we found that a significant correlation between the level of SFRP4 and inflammation biomarker ox-LDL and hsCRP in patients with coronary artery disease there.

DISCUSSION

- **Ehrlund** in Recent studies have shown that SFRP4 is a adipocytes. And may affect adipocytes adiponectin secretion (19)
- **Mahdi T and Hanzelmann** first pilot study showed that the protein SFRP4 obese individuals compared with lean people, twice, and correlated significantly with BMI and body fat percentage
- **Furukawa and Fujita** my studies they conducted found that protein SFRP4 is an adipocytokine that secreted by adipocytes and implicated in inflammatory processes

CONCLUSION

- The results showed that the SFRP4 in patients with coronary artery stenosis compared with the control group significantly increased. The trend of increasing activity in the subjects SFRP4 serum LDL and hsCRP is a direct relationship with OX. SFRP4 able to effectively between patients with coronary artery stenosis and controls with high sensitivity and specificity as biomarkers to differentiate allowed. In addition, SFRP4 would appear useful diagnostic.

با سپاسی

