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Serum Adipocyte-Specific Fatty Acid-Binding Protein is a Predictable Marker of CAD and DM

Cardiology Department, Soonchunhyang university cheonan hospital, cheonan, Korea

*Ji-Hye Min, Won-Yong Shin, Sang-Ho Park, Se-Whan Lee, Seung-Jin Lee, Dong-Kyu Jin

Introduction: Adipocyte-specific fatty acid-binding protein (A-FABP), expressed in adipocytes and macrophages, plays a central role in the development of atherosclerosis and diabetes mellitus in experimental animals. We assessed hypothesis that A-FABP is also plays a central role in the development of atherosclerotic cardiovascular disease and DM in humans. **Methods:** In a total of 175 Korean adult, in whom CAG were performed, anthropometrical and biochemical parameters were measured. Serum A-FABP levels were measured using ELISA. The metabolic syndrome was diagnosed according to American Heart Association/National Heart, Lung and Blood Institute. **Results:** 136 subjects (77.2%) had coronary artery disease (CAD) and 61 subjects (34.9%) had DM. Serum A-FABP level in CAD patients is showned significantly higher than in non-CAD patients (46.75 ± 17.79 ng/mL vs. 26.75 ± 9.48 ng/mL, $p < 0.001$). Serum A-FABP level in DM and metabolic syndrome patients is also showed significantly higher than in non-diabetic and non-metabolic syndrome patients. In addition, serum A-FABP level in CAD patients is showed significantly higher than in non-CAD patients after adjustment for sex, age, DM and metabolic syndrome ($p = 0.035$). And serum A-FABP level in diabetic patients is also showed significantly higher than in non-diabetic patients after adjustment for sex, age, CAD and metabolic syndrome ($p < 0.001$). **Conclusions:** Serum A-FABP might be a predictable marker of CAD and DM in Korean adults.

Table. Comparison of mean A-FABP level according to different status

SEX	Female (n=94)	Male (n=81)	p-value	p-value*
	43.23±18.13	41.20±18.54	0.467	0.563
Diabetes Mellitus	Absence (n=113)	Presence (n=62)		
	33.38±11.89	58.53±16.75	<0.001	<0.001
Metabolic syndrome	Absence (n=79)	Presence (n=96)		
	38.29±14.73	45.59±20.27	0.008	0.495
Coronary artery disease	Absence (n=39)	Presence (n=136)		
	26.75±9.48	46.75±17.79	<0.001	0.035

p-value*; adjusted by sex, age, DM, and metabolic syndrome.

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Serum Retinol Binding Protein 4 and HbA1C level is associated with Target Lesion Revascularization

가톨릭대학교 의과대학 내과학교실

*김신승, 김인수, 최윤석, 박철수, 정우백, 권아미, 이만영, 정욱성, 송기배

Background: Retinol Binding Protein 4 (RBP4), a novel marker of insulin resistance and a key regulatory adipokine of Glucose Transporter 4 (GLUT 4) is predictive of and/or contributory to vascular complication in type 2 diabetes. We examined the association between RBP 4 or glycemic control determined by pre and post procedural hemoglobin A1c (HbA1c) level and target lesion revascularization rate (TLR) in diabetic patients undergoing elective percutaneous coronary intervention (PCI) with drug eluting stents. **Methods:** 90 patients (mean age : mean age = 64 ± 8 years, M:F = 41:39, Cypher: Taxus = 65:25) who underwent PCI and six month angiographic follow up were divided into two groups by the result of target lesion revascularization (TLR and no TLR group). Serum RBP 4 concentrations just before procedure and at the time of follow up coronary angiogram were measured by ELISA method. Optimal glycemic control was defined as $HbA1c \leq 7\%$, and serum adiponectin and hsCRP levels were also compared between two groups respectively. **Results:** Among the 90 patients, TLR at six month angiographic follow up was 12.2%. Serum RBP 4 level just before PCI was significantly higher in TLR group than no TLR group (40.5 ± 5.9 ug/ml vs 26.7 ± 1.6 ug/ml, $p = 0.008$). Serum RBP 4 at follow up was not different between two groups (36.6 ± 7.7 ug/ml vs 52.7 ± 4.7 ug/ml). Patients with $HbA1c > 7\%$ showed significantly higher TLR rate than those with $HbA1c \leq 7\%$ (17% vs. 11%, $p = 0.001$) six months after the index intervention. Serum adiponectin, hsCRP and stent length did not show significant difference between 2 groups but the stent diameter was significantly smaller in TLR than no TLR group (3.0 ± 0.5 mm vs 3.1 ± 0.3 mm, $p = 0.02$). In a multiple logistic regression analysis, serum RBP 4 elevation at the index intervention was a significant independent predictor for TLR (odds ratio 1.08, 95% confidence interval 1.02 to 1.14; $p = 0.006$) after adjusting with hsCRP and HbA1C level. **Conclusions:** In diabetic patients undergoing elective PCI, improving insulin resistance and obtaining optimal glycemic control might be important to reduce TLR.