Lipoprotein Phospholipase A2 (LpPLA2) Levels Among Morbid Obese Patients-Identifies Cardiac Risk

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Introduction: Lp-PLA2 -a vascular-specific inflammatory biomarker of cardiovascular (CV) risk below the low 200's ng/ml has a high negative predictive value of about 95% for future CV event rates - suggesting plaques have been stabilized by treatment and that there is low (5%) residual CV risk. Conversely, patients above 223 ng/ml had a significant doubling of risk for CV events, fully adjusted for traditional risk factors, lipids and also and NT-pro-BNP. A recent study (JNC 2011; 18:886-92) of 383 patients (aged 42±10, BMI 49±8, 23% diabetic, 1 CAD) referred for myocardial SPECT prior to bariatric surgery disclosed abnormal results in 20 (5%) only. The authors implied that routine pre-op stress testing may be redundant.

Objective: Compare PLAC test serum levels (Diadexus PLAC Test ELISA Kit) of the bariatric group versus those of acute STEMI and other acute chest pain syndromes.

Population & Methods: LpPLA2 was determined in sleeve gastric surgery candidates (BMI-40.9 ± 10.5, samples drawn at 24h prior to operation), acute ST - Elevation MI and "non-specific" acute chest pain (TnI =0.0ng/ml) groups.

Table A compares groups' baseline data.

	Group A :Sleeve n=26	Group B: STEMI, n=16	Group C, n=20	p:A versus B	p: A versus C
Age(y)	47.7 ‡ 12.2	62.7 ‡ 11.5	57.5 ‡ 13.1	0.0003	0.013
Females (%)	12(46)	1(6)	3(15)	0.007	0.03
Creatinine (mg%)	0.86 ‡ 0.31	1.08 ‡ 0.33	0.99‡ 0.19	0.06	0.1
Diabetes Mellitus(%)	14(54)	4(25)	2(10)	0.11	0.002
Known CAD (%)	2(8)	2(13)	6(30)	0.62	0.06
Statin Therapy	12(48)	6(55)	11(55)	0.75	0.77
Total Cholesterol (mg%)	197 ‡ 38	174 ‡ 43	159 ‡ 30	0.10	0.001
HDL–C (mg %)	40‡ 9	38 ‡ 9	42‡ 11	0.39	0.73

Table B compares respective (groups A, B and C) LpPLA2 levels.

	A	B	C	p:A versus B	p: A versus C
Mean ‡SD	254 ‡ 47	282 ‡ 82	296 ‡ 87	0.22	0.056
>223ng/ml (%)	18(69)	14(88)	15(75)	0.44	1.0

Conclusions: In contrast to our colleagues impression, the high PLAC levels (= high cardiovascular risk) observed in our bariatric population (54% diabetic) emphasize need for pre-operative testing, appropriate life-style modifications and aggressive therapy following surgery.