

Dyslipidemia Guidelines CardioEgypt 2011

By

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Lipid case:

- 45 asymptomatic male.
- Worried because his TC is high and his brother had a history of a heart attack .
- Smoker
- TC: **233** mg/dl HDL:**37** TG:**180** LDL:**160**
- FBG: 122
- BMI 29 Kg/m²
- HR: 74/m BP: 146/88

NCEP ATP III guidelines for estimate of 10-year risk for CHD in men and women

Age	Points		HDL	Points	Total Points	10-Year Risk %
	< 30	30-34				
-9	0	-4	> 60	-1	< 0	< 1
35-39	0	-4	50-59	0	0	1
40-44	0	0	40-49	1	1	1
45-49	3	0	< 40	2	2	1
50-54	6	0			3	1
55-59	8	0			4	1
60-64	10	0			5	2
65-69	11	0			6	2
70-74	12	0			7	3
75-79	13	0			8	4
					9	5
					10	6
					11	8
					12	10
					13	12
					14	16
					15	20
					16	25
					≥ 17	≥ 30

Age	Points				
	20-39	40-49	50-59	60-69	70-79
< 160	0	0	0	0	0
160-199	4	3	2	1	0
200-239	7	5	3	1	0
240-279	9	6	4	2	1
≥ 280	11	8	5	3	1

Age	Points					Systolic BP	Untreated	Treated
	20-39	40-49	50-59	60-69	70-79			
Non-smoker	0	0	0	0	1	< 120	0	0
Smoker	8	5	3	1	1	120-129	0	1
						130-139	1	2
						140-159	1	2
						≥ 160	2	3

Intensive LDL-C Goals for High Risk Patients

Recommended LDL-C treatment goals

ATP III Update 2004¹

<100 mg/dL: Patients with CHD or CHD risk equivalents (10 year risk >20%)¹

<70 mg/dL: Therapeutic option for very high risk patients¹

↓

↓

AHA/ACC guidelines for patients with CHD^{1,2}

<100 mg/dL: Goal for all patients with CHD^{1,2}

<70 mg/dL: A reasonable goal for all patients with CHD²

← 2006 Update

* If it is not possible to attain LDL-C < 70 mg/dL because of a high baseline LDL-C, it generally is possible to achieve LDL-C reductions of >50% with more intensive LDL-C-lowering therapy, including drug combinations.

¹ And other forms of atherosclerotic disease.²

[†] Factors that place a patient at very high risk: established cardiovascular disease plus: multiple major risk factors (especially diabetes); severe and poorly controlled risk factors (e.g., cigarette smoking); metabolic syndrome (triglycerides ≥200 mg/dL + non-HDL-C ≥130 mg/dL with HDL-C <40 mg/dL); and acute coronary syndromes.¹

1. Grundy SM et al. *Circulation* 2004;110:227-239.

2. Smith SC Jr et al. *Circulation* 2006; 113:2363-2372.

Other risk stratifiers

- Hs-CRP
- CIMT
- Ca-scoring

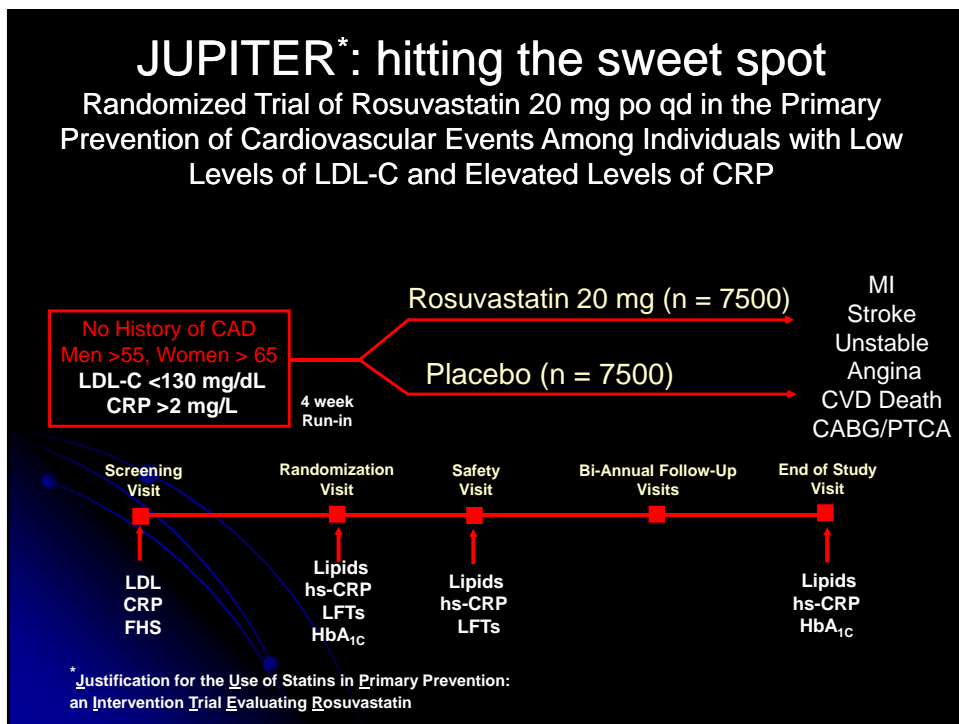
AHA/CDC Scientific Statement

- Impressive scientific and epidemiologic evidence that atherosclerosis is an inflammatory response

- CRP risk cutpoints

- **Low risk:** < 1.0 mg/L
- **Average risk:** 1.0–3.0 mg/L
- **High risk:** > 3.0 mg/L

AHA/CDC Scientific Statement. *Circulation*. 2003;107:499-511



Lipid case: Is it Metabolic syndrome?

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- Worried because his TC is high and his brother had a history of a heart attack .
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- FBG: 122
- BMI 29 Kg/m²
- HR: 74/m BP: 146/88

Treatment of "Metabolic Syndrome" or "Cardiometabolic Risk"

According to guidelines from the

- ATP III, *
- JNC VII, † and
- ADA ‡:

First-Line Therapy = Weight Reduction with Lifestyle Modification

*Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults. *JAMA* 2001;285:2486-2497. | †Chobanian AV et al. *JAMA* 2003;289:2560-2572 | ‡American Diabetes Association. *Diab Care* 2004;27:S36-S46.

Could LSM and diet control do it?

weight (92Kg, height 5'5", waist 40"

Weight 84 Kg, height 5'5", waist 36"

52 Yrs old premenopausal female

- | | |
|--------------------|-----------------|
| ● FBG: 105 mg/dL | ● FBG: 92 mg/dL |
| ■ TC: 203 mg/dL | ■ TC: 170 mg/dL |
| ■ TG: 195 mg/dL | ■ TG: 130 mg/dL |
| ■ LDL-C: 118 mg/dL | ■ LDL: 92 mg/dL |
| ■ HDL-C: 46 mg/dL | ■ HDL: 52 mg/dL |
| ■ ALT: 70 U/L | ■ ALT: 32 U/L |

Dietary Adjuncts

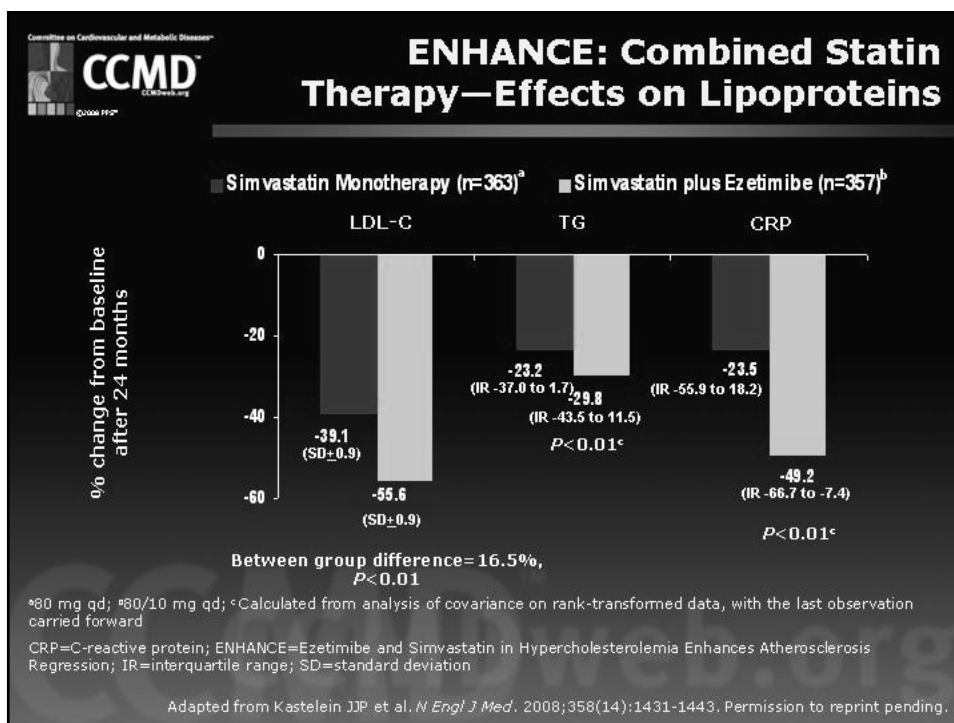
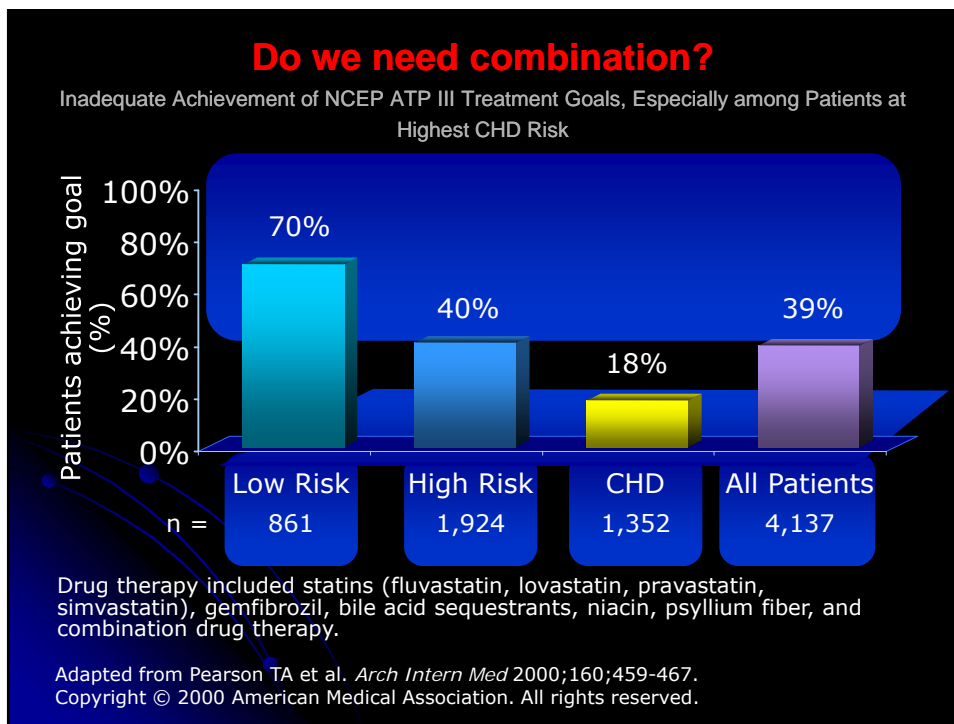
- TLC for patients with LDL-C = 160

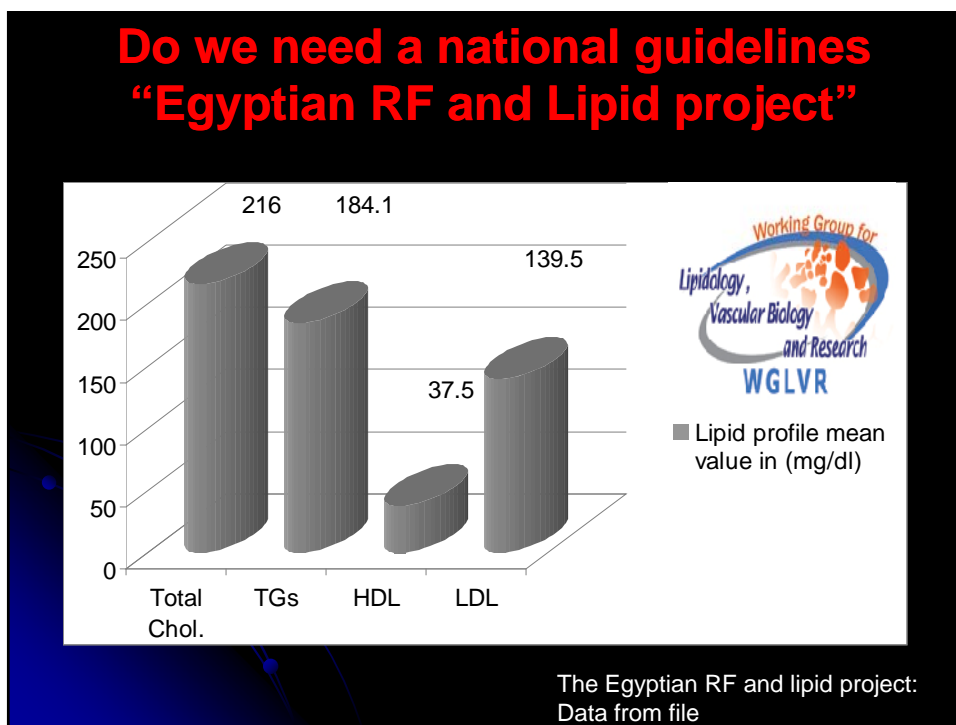
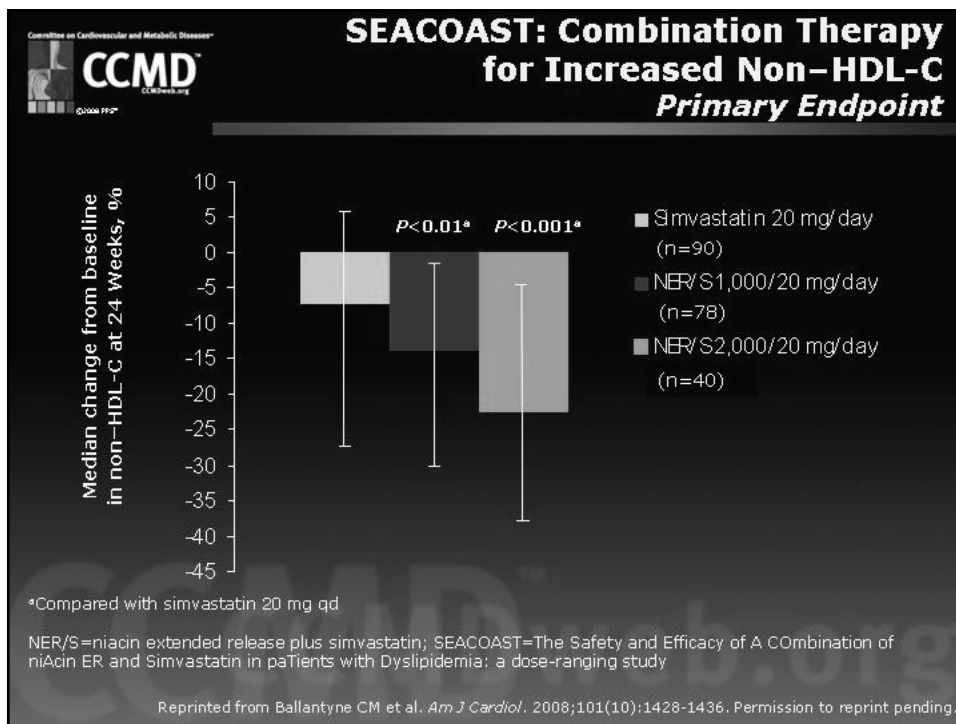
Dietary Component	LDL-C ↓ (mg/dL)
Low saturated fat/dietary cholesterol	-12
Viscous fiber (10–25 g/d)	-8
Plant stanols/sterols (2 g/d)	-16
Total	-36

Walden CE, et al. *Arterioscler Thromb Vasc Biol.* 1997;17:375-382.
Jenkins DJ, et al. *Curr Opin Lipidol.* 2000;11:49-56.
Cato N. Stanol meta-analysis. Personal communication, 2000.

**SO, LSM followed by statin is
the corner stone of
dyslipidemia management**

What about combination?





- STEP 1: Determine lipoprotein levels - obtain complete lipoprotein profile after 9- to 12-hour fast
- STEP 2: Identify presence of clinical atherosclerotic disease that confers high risk for coronary heart disease (CHD) events (CHD risk equivalent)
- STEP 3: Determine presence of major risk factors (other than LDL)
- STEP 4: If 2+ risk factors (other than LDL) are present without CHD or CHD risk equivalent, assess 10-year (short-term) CHD risk
- STEP 5: Determine risk category
- STEP 6: Initiate therapeutic lifestyle changes (TLC) if LDL is above goal
- STEP 7: Consider adding drug therapy if LDL exceeds levels shown in Step 5 table
- STEP 8: Identify metabolic syndrome and treat, if present, after 3 months of TLC
- STEP 9: Treat elevated triglycerides

Lipid Management: Goal (2ry prevention)



LDL-C should be less than 100 mg/dL



Further reduction of LDL-C to <70 mg/dL is reasonable

- If it is not possible to attain LDL-C <70 mg/dL because of a high baseline LDL-C, it generally is possible to achieve LDL-C reductions of >50% with more intensive LDL-C lowering therapy, including drug combinations

If TG \geq 200 mg/dL, non-HDL-C should be <130 mg/dL*

*Non-HDL-C = total cholesterol minus HDL-C

Smith SC Jr et al. *Circulation* 2006;113:2363-2372.

Conclusions

- Till we have our data we should follow the European standard
- Risk stratification before decision
- Life style modification is a corner stone in CV prevention
- The goals of therapy differ according to the risk category

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Vascular Biology
and Research
WGLVR

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