Evidence-based Medicine

Hyperlipidemia in Traditional Chinese Medicine

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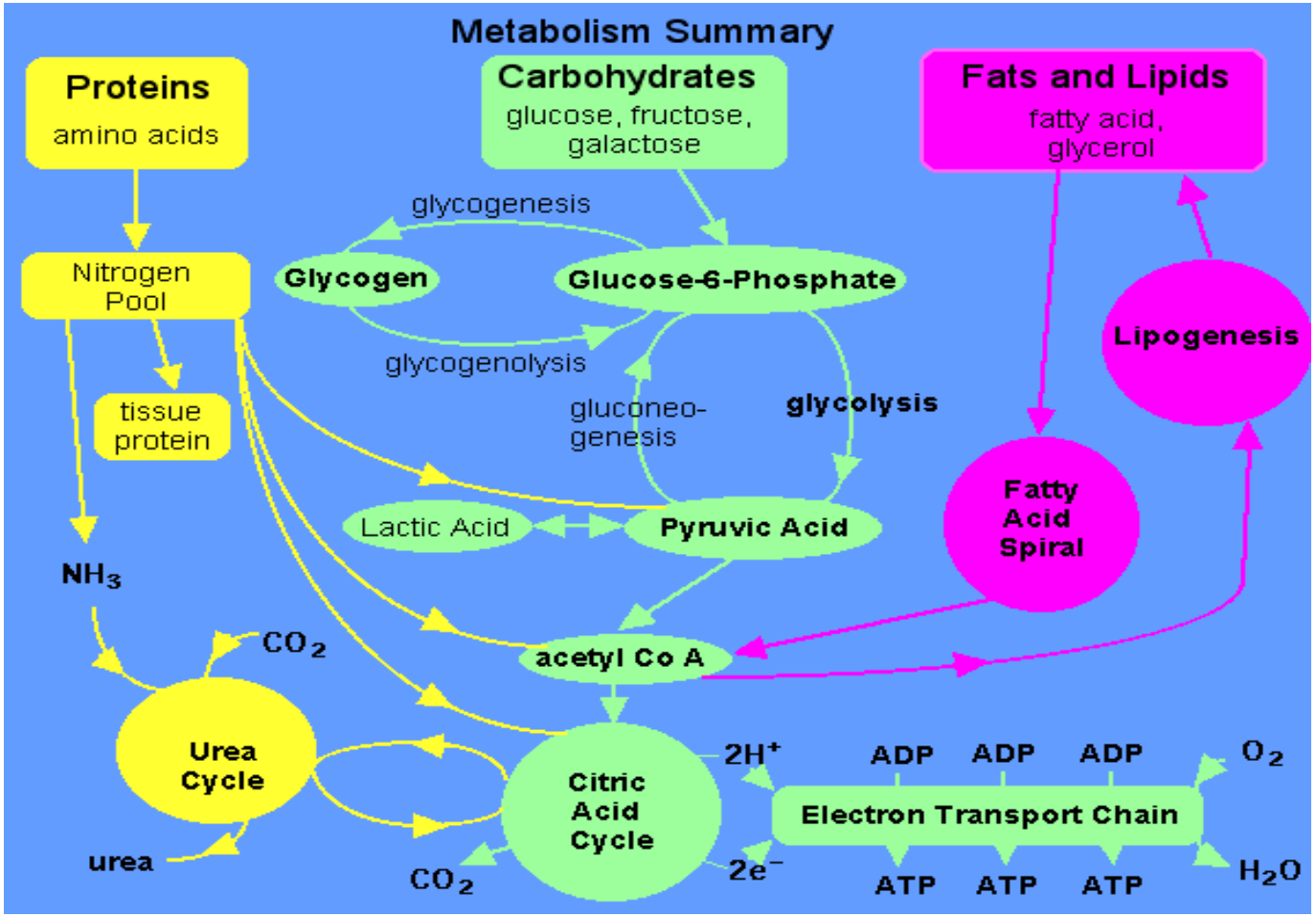
Outline

- **Introduction**
  - **EBM**
  - **Hyperlipidemia**
- **EBM for Hyperlipidemia**
- **Conclusion**

Evidence-based Medicine

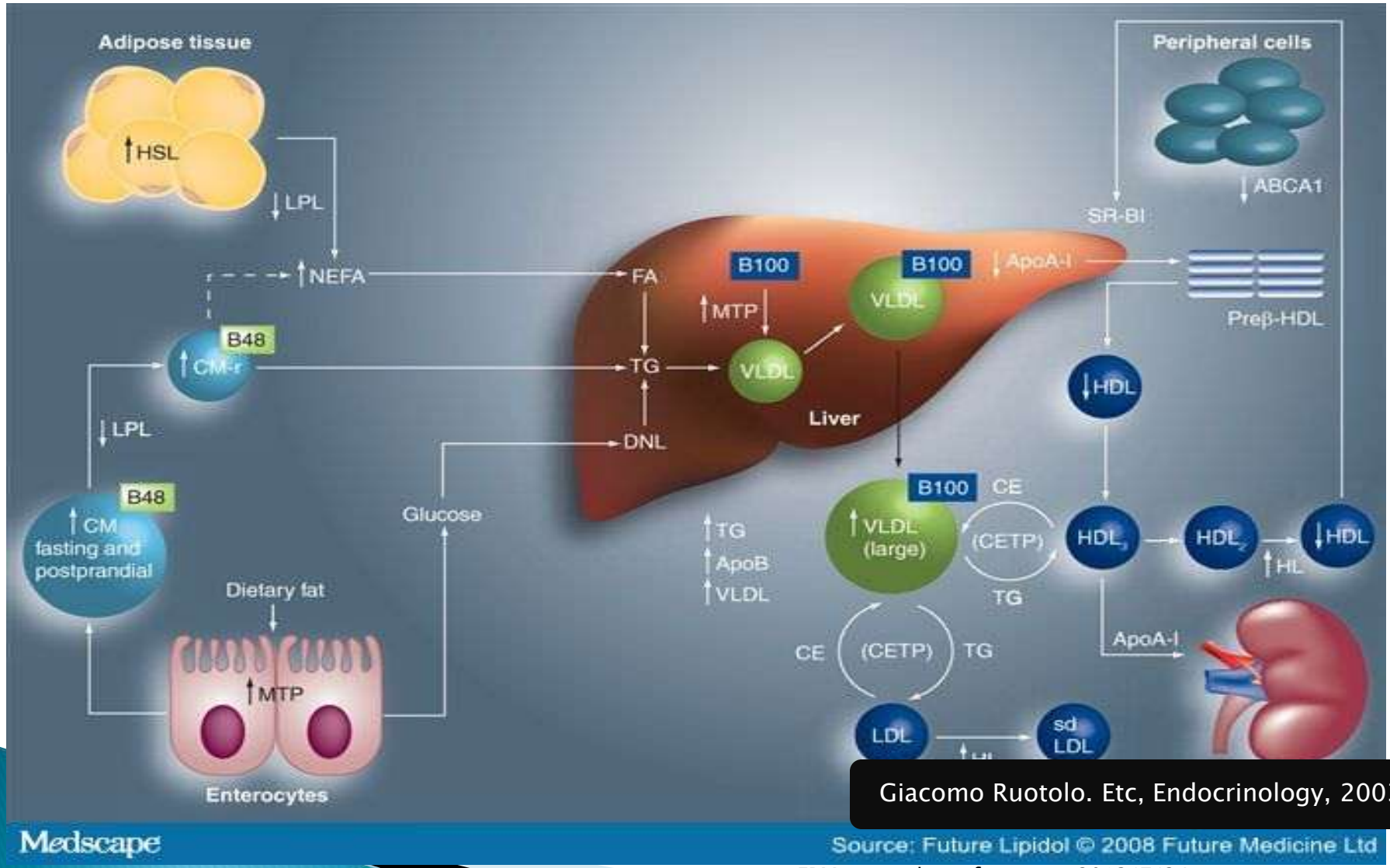
- EBM
- Background
- Access

Lipid Metabolism



Vit Chembook, 2003

Dyslipidemia



Giacomo Ruotolo. Etc, Endocrinology, 2003

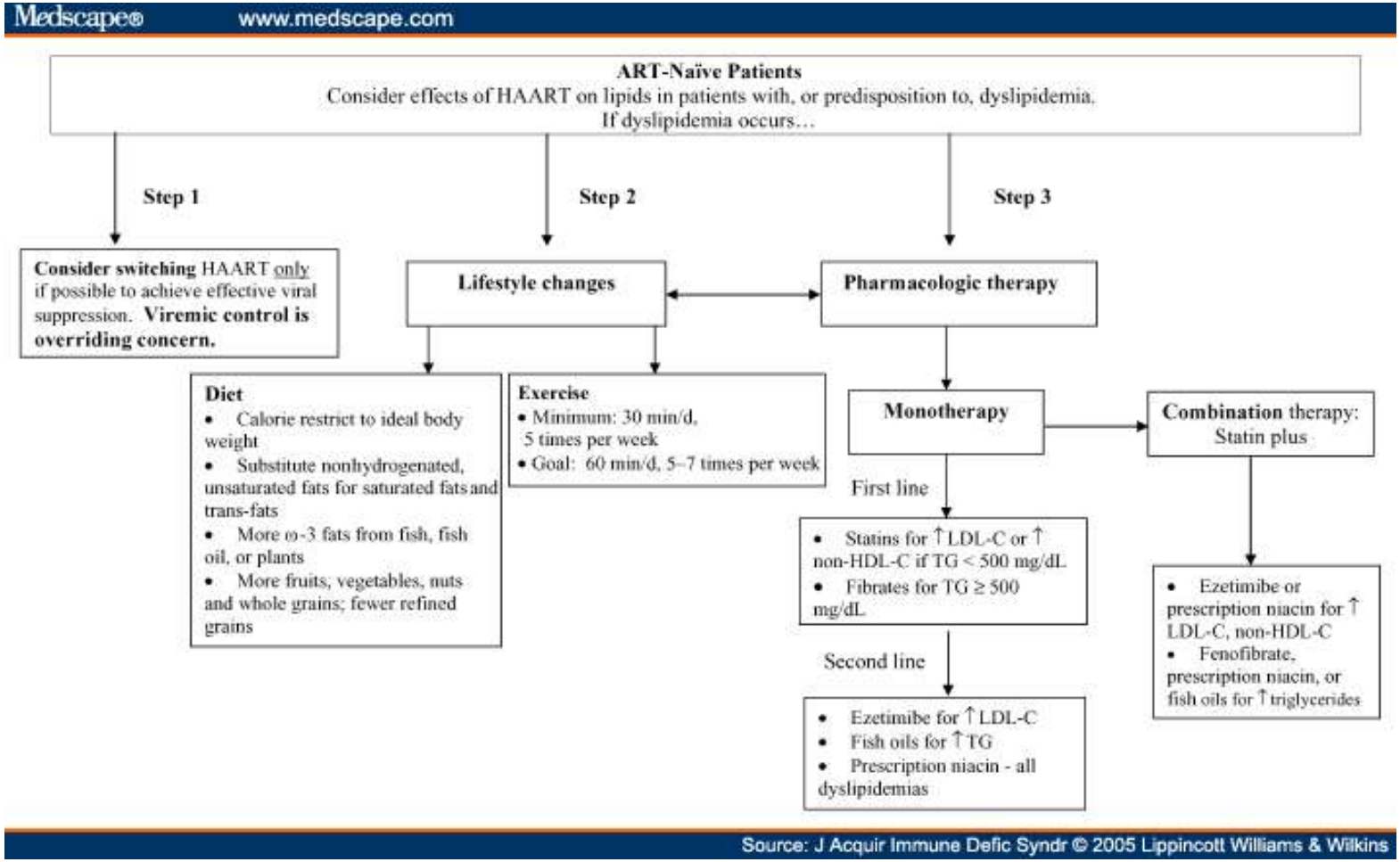
Etiology

Dyslipidemia – Secondary Causes

Elevated LDL Cholesterol	Low HDL Cholesterol
Obesity	Metabolic Syndrome
High fat intake	Diabetes Mellitus
Hyperthyroidism	Obesity or Weight gain
Diabetes Mellitus	Physical inactivity
Nephrotic Syndrome	Tobacco use
Anabolic Steroids	Beta Blocker therapy
Progestins	Low fat or High Polyunsaturated fat diets
Obstructive Hepatobiliary disease	Anabolic Steroids
	Progestins
	Thiazide diuretics

Gerald T. Gau, Etc. Curr Probl Cardiol., 2006

Treatment for Dyslipidemia



PICO

- Problem
  - Dyslipidemia/Hyperlipidemia
- Intervention
  - Red yeast rice
- Comparison
  - Statin, Plcebo
- Outcome
  - LDL, triglyceride, Cholesterol, HDL, CAD risk…etc.

Key word

- Dyslipidemia, hyperlipidemia
- Red yeast rice
- Herb, Herbal, Traditional Chinese Medicine

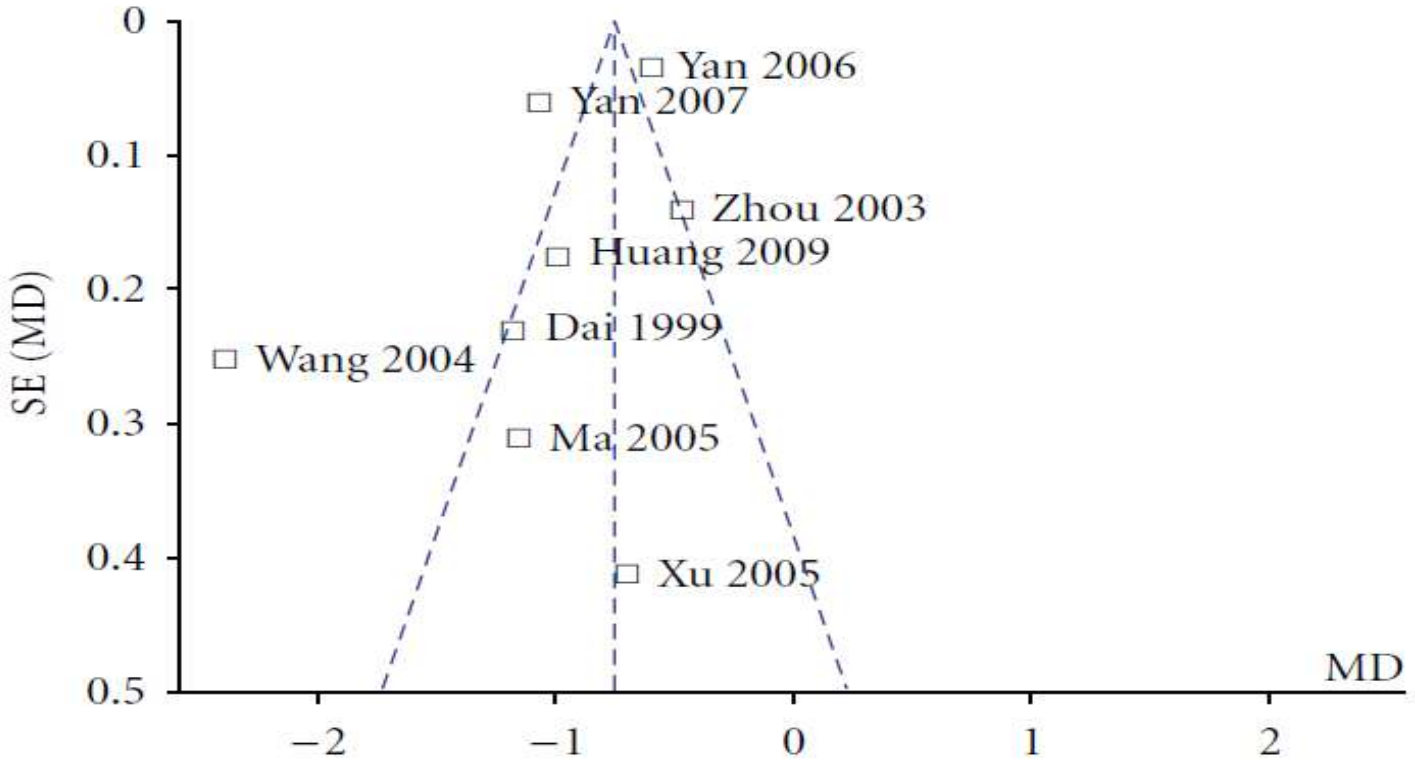
Red Yeast Rice

Review Article

A Systematic Review of Xuezhikang, an Extract from Red Yeast Rice, for Coronary Heart Disease Complicated by Dyslipidemia

Qinghua Shang,[1] Zhaolan Liu,[2] Keji Chen,[3] Hao Xu,[3] and Jianping Liu[2]

Result



Note: The funnel plot presented 8 trials in the comparison of Xuezhikang and conventional therapy versus conventional therapy on the effect of TC

FIGURE 3: The funnel plot for assessing reporting bias.


Systematic Reviews and Meta-analyses
Randomized Controlled Double Blind Studies
Cohort Studies
Case Control Studies
Case Series
Case Reports
Ideas, Editorials, Opinions
Animal research
In vitro ('test tube') research

Red Yeast Rice

Red yeast rice lowers cholesterol in physicians - a double blind, placebo controlled randomized trial

BMC Complementary and Alternative Medicine 2013, **13**:178 doi:10.1186/1472-6882-13-178

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Result

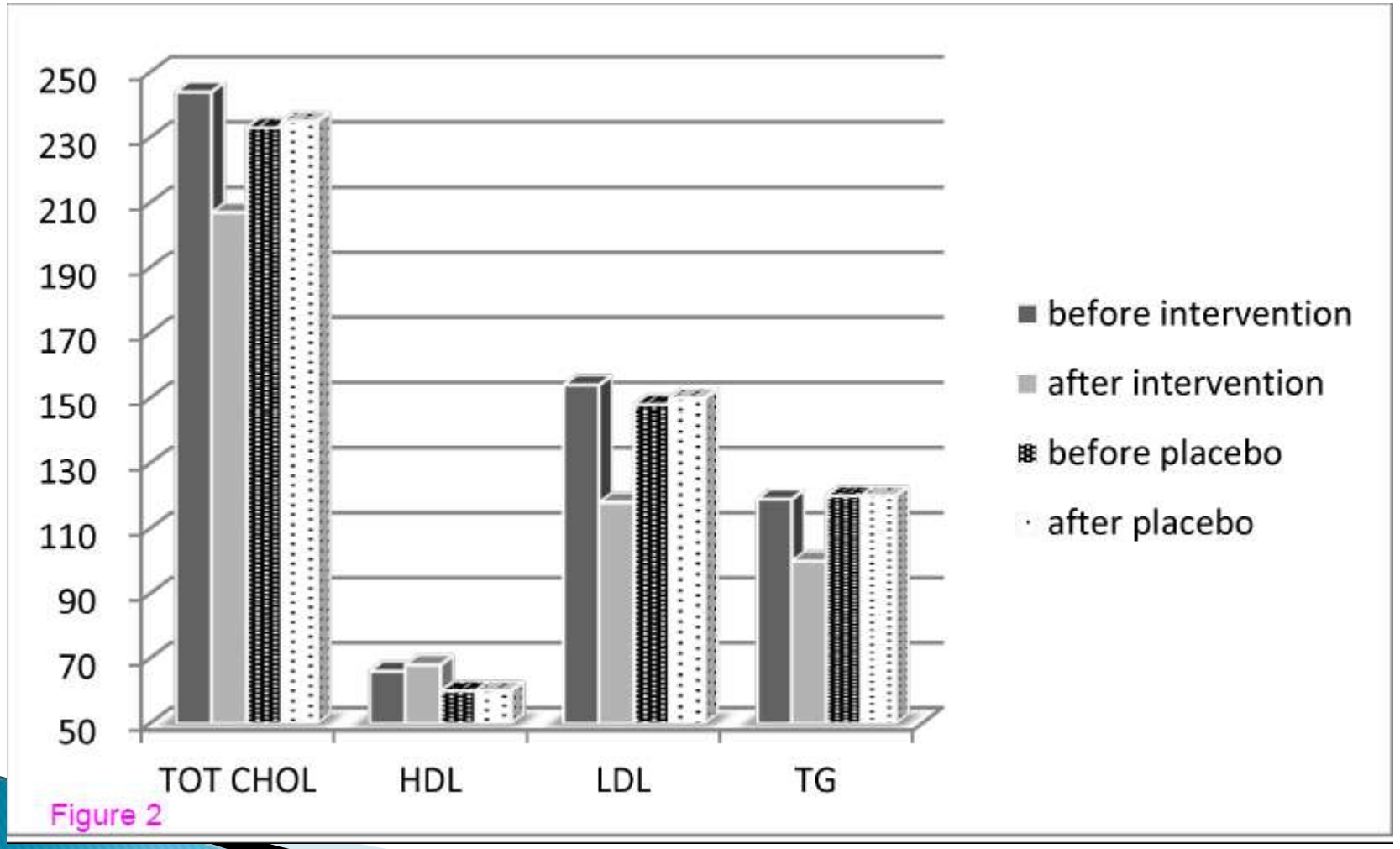

Figure 2

Authors' Suggestion

- Decrease cholesterol & LDL
- Less side effect: CK enzyme, Myopathy
- Limitation

Red Yeast Rice

Scandinavian Cardiovascular Journal, 2010; 44: 197–200

ORIGINAL ARTICLE

HypoCol (red yeast rice) lowers plasma cholesterol – a randomized placebo controlled study

MARTIN PRØVEN BOGSRUD[1], LEIV OSE[1], GISLE LANGSLET[1], INGER OTTESTAD[3], ELLEN CHARLOTTE STRØM[1], TOR-ARNE HAGVE[2,4] & KJETIL RETTERSTØL[1,5]

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Result

Table I. Lipid concentrations. Table shows mean concentration ± standard deviation.

	Red yeast rice (RYR)			Placebo		
	Randomization	6 weeks	16 weeks	Randomization	6 weeks	16 weeks
Total cholesterol (mmol/L)	5.69 ± 0.7	4.78 ± 0.8[2]	4.81 ± 0.7[1]	5.86 ± 1.1	5.71 ± 0.9	6.17 ± 1.0
LDL-cholesterol (mmol/L)	3.74 ± 0.7	2.94 ± 0.7[2]	2.88 ± 0.6[1]	4.15 ± 0.9	3.93 ± 0.8	4.29 ± 1.0
HDL-cholesterol (mmol/L)	1.62 ± 0.4	1.66 ± 0.4	1.71 ± 0.4	1.35 ± 0.4	1.37 ± 0.4	1.48 ± 0.4
Triglycerides (mmol/L)	1.01 ± 0.6	0.84 ± 0.4	0.90 ± 0.4	1.29 ± 0.9	1.42 ± 1.3	1.51 ± 1.3
Apolipoprotein B (mg/L)	0.99 ± 0.2	0.80 ± 0.2[1]	0.77 ± 0.1[1]	1.11 ± 0.3	1.05 ± 0.2	1.11 ± 0.2
Apolipoprotein A1 (mg/L)	1.46 ± 0.2	1.51 ± 0.3[2]	1.61 ± 0.3	1.35 ± 0.3	1.35 ± 0.2	1.47 ± 0.3

[1]Change from baseline to this visit in treated group compared to control group significant with $p<0.001$.

[2]Change from baseline to this visit in treated group compared to control group significant with $p<0.005$.

Authors' Suggestion

- Decrease cholesterol & LDL
- Less side effect
- Limitation

Extra-reading

NUTRITION REVIEWS

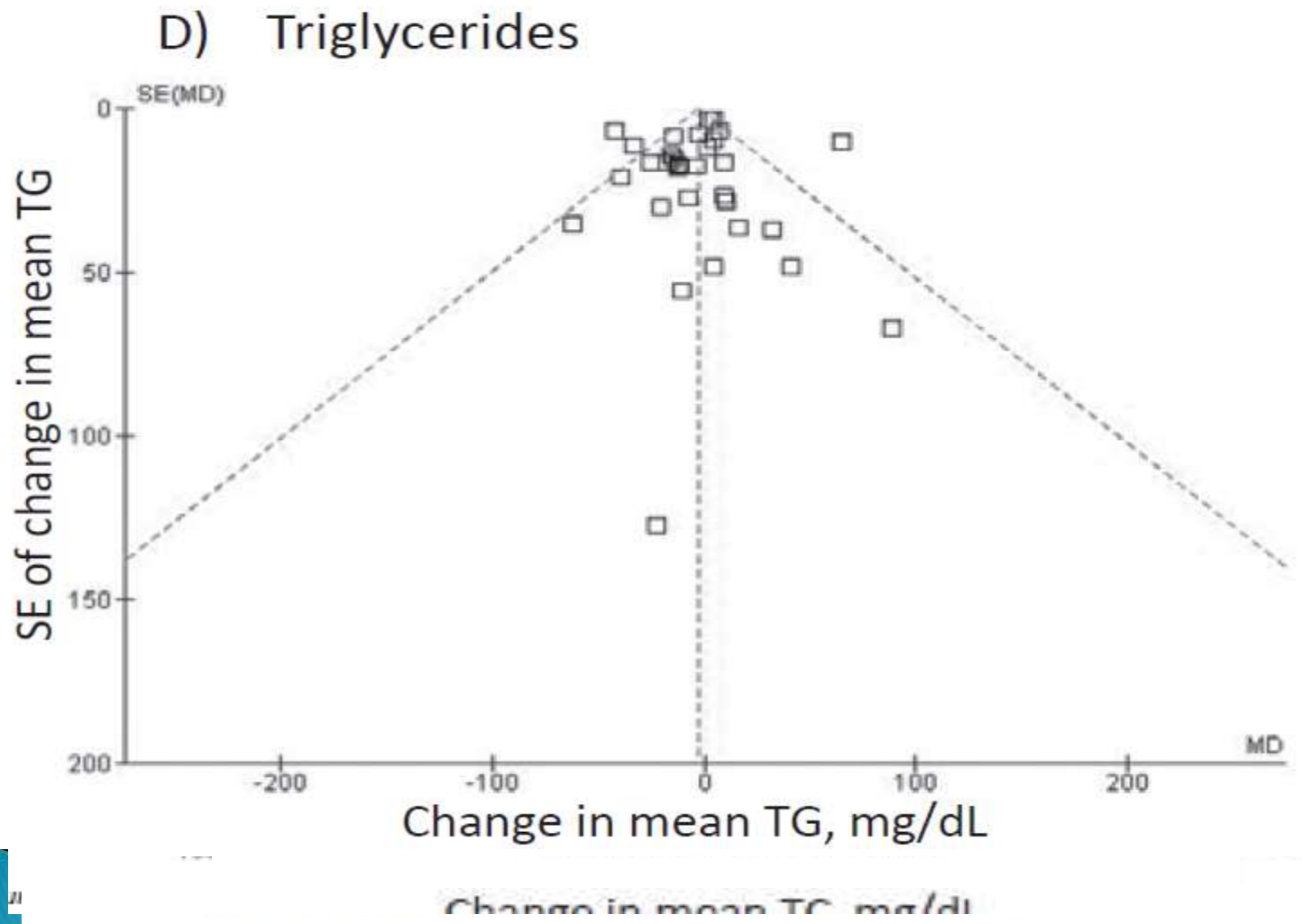
Special Article

Effect of garlic on serum lipids: an updated meta-analysis

Karin Ried, Catherine Toben, and Peter Fakler

Hypercholesterolemia is associated with an increased risk of heart disease. The effect of garlic on blood lipids has been studied in numerous trials and summarized in meta-analyses, with conflicting results. This meta-analysis, the most comprehensive to date, includes 39 primary trials of the effect of garlic preparations on total cholesterol, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, and triglycerides. The findings suggest garlic to be effective in reducing total serum cholesterol by 17 ± 6 mg/dL and low-density lipoprotein cholesterol by 9 ± 6 mg/dL in individuals with elevated total cholesterol levels (>200 mg/dL), provided garlic is used for longer than 2 months. An 8% reduction in total serum cholesterol is of clinical relevance and is associated with a 38% reduction in risk of coronary events at 50 years of age. High-density lipoprotein cholesterol levels improved only slightly, and triglycerides were not influenced significantly. Garlic preparations were highly tolerable in all trials and were associated with minimal side effects. They might be considered as an alternative option with a higher safety profile than conventional cholesterol-lowering medications in patients with slightly elevated cholesterol.

Result


D) Triglycerides
SE(MD)
0
50
100
150
200
SE of change in mean TG
-200
-100
0
100
200
MD
Change in mean TG, mg/dL

Conclusion

- Clinical effect of RYR
- Upward effect
- Limitation
- Application

Thanks for your attention!