**Quiz 2 Lipids summary statistics and answers**

The correct answers to questions are indicated by “*”.

Quiz 2 score stats all students (n=163).
8.4±1.4, mean±sd
8.0, median
4.0-10.0, range
n=163 (TC: 109, Duluth: 54)
1. A 52-year-old black female is in the clinic for a check-up with newly diagnosed metabolic syndrome. She has a 10 year history of hypertension. She does not drink or smoke. Her average blood pressure from the last three clinic visits is 135/83 mmHg and a BMI of 32 mg/kg². She takes amlodipine 10 mg daily and has no known drug allergies. Her mother died of a heart failure at 70 years of age.

Lab results:
- fasting lipid panel (4 weeks ago)
  - total cholesterol 180 mg/dL
  - triglycerides 154 mg/dL
  - HDL 38 mg/dL
  - LDL 110 mg/dL
- liver function test (4 weeks ago)
  - AST 25 units/L, (normal range: 15-30 units/L)
  - ALT 15 units/L, (normal range: 5-40 units/L)

Which of the following is the most appropriate therapeutic goal at this time?

a. Decrease weight to reach a BMI goal in the range of 18.5 to 24.9 kg/m².
b. Consider starting aspirin.
c. Begin 30 minutes of physical activity a day at least 3 times a week.
d. Start hydrochlorothiazide 12.5 mg daily.

*e. a, b and c.*
2. Click here for ATP III 10-year Risk Framingham Table.

A 54 year-old male has returned to the clinic for a follow-up visit for dyslipidemia. He has a history of hypertension and type 2 diabetes. His father had an MI at age 45 years and mother has hypertension and dyslipidemia. He takes simvastatin 80mg po daily for the past two years, lisinopril 20 mg daily, HCTZ 12.5 mg po daily and has no known drug allergies. The patient has been compliant with therapeutic life style changes and medications since the last clinic visit 4 months ago. His average of two blood pressure readings taken at this visit was 127/77 mmHg.

Lab results:
fasting lipid panel (4 months ago)
total cholesterol 161 mg/dL
triglycerides 160 mg/dL
HDL 45 mg/dL
LDL 84 mg/dL
liver function test (4 months ago)
AST 21 units/L, (normal range: 15-30 units/L)
ALT 30 units/L, (normal range: 5-40 units/L)

Indicate the most appropriate and safest next step in the management of lipid drug therapy for the patient according to the "White paper" by Grundy et al.?

a. Add gemfibrozil 600 mg twice daily to current dose of simvastatin.
b. Add rosvastatin 5 mg daily to current dose of simvastatin.
*c. Add ezetimide 10 mg daily to current dose of simvastatin.
d. Discontinue simvastatin and start rosvastatin 80 mg po daily.
e. Maintain simvastatin 80 mg po daily.
3. The **PROVE-IT** trial compared intensive verses moderate LDL lowering with statins in patients at high risk for CHD. Select one best answer based your understanding of the PROVE-IT trial.

a. Aggressive LDL lowering to values less than 70 mg/dL in the atorvastatin 80 mg group resulted in a statistically significant increase in death and major cardiovascular event when compared to pravastain 40 mg.

*b*. The study was designed to show non-inferiority in death and major cardiovascular event when using pravastatin 40mg verses atorvastatin 80mg daily in ACS patients, yet resulted in an unexpected superiority conclusion with atorvastatin.

c. Intensive LDL lowering with atorvastatin 80 mg had a statistically significant reduction in death and major cardiovascular event when compared to the pravastatin 40mg group in patients with stable coronary disease for the last 6 months.

d. There were no statistically significant differences in ALT/AST levels, myalgias, muscle aches or elevations creatine kinase (CK) in the atorvastain 80 mg group when compared to the pravastatin 40 mg treatment group.

e. None of the above statements are correct.
4. A 60 year-old male is being discharged from the hospital for treatment of a diabetic foot ulcer and fungal infection. His previous medical conditions are hypertension, type 2 diabetes, and dyslipidemia. He has no known drug allergies and currently takes the following medications:
- ketoconazole 400 mg po daily for 8 weeks for fungal infection
- aspirin 81 mg po daily
- lisinopril 10 mg po daily for hypertension
- amlodipine 5 mg po daily for hypertension
- atorvastatin 10 mg po daily for dyslipidemia
- pioglitazone 30 mg po daily for type 2 diabetes

Labs results:
- fasting lipid panel (1 day ago)
  - total cholesterol 170 mg/dL
  - triglycerides 120 mg/dL
  - HDL 49 mg/dL
  - LDL 97 mg/dL

  liver function test (1 day ago)
  - AST 27 units/L, (normal range: 15-30 units/L)
  - ALT 35 units/L, (normal range: 5-40 units/L)

The discharge pharmacy has discovered his pharmacy benefits formulary does **not** pay for atorvastatin. Assuming his formulary covers all other statins, which of the following is the most appropriate therapeutic substitution that maintains similar efficacy in LDL lowering and avoids potential CYP450 based interactions?

a. fluvastatin 40 mg po daily.
b. simvastatin 10 mg po daily.
c. lovastatin 10 mg po daily.
d. pravastatin 40 mg po daily.
e. continue atorvastatin regardless of cost or safety to patient.
5. Click here for the CRP and LDL-C figure associated with Lipid Question Number 5.

The attached figure has cardiovascular event-free survival curves over time using combined C-reactive protein (CRP) and LDL-C cutoffs which may help with identifying high-risk CHD groups. Ridker et al. (2002) analyzed CRP and LDL in 15,745 women who were not using hormone replacement therapy. The four groups were based on whether participants were above or below the median CRP value for the women studied and median LDL-C value for the women studied. Your clinical interpretation of this information can best be summarized by which of the following statements regardless of statistical significance.

a. Probable event free survival among women in the "high CRP-High LDL-C" group was better than in the "low CRP-low LDL-C" group.
b. Low CRP levels in women regardless of LDL cutoff have a higher probability of developing cardiovascular events than high CRP levels.
*c. Probable event free survival among women in "high CRP-low LDL-C" group was worse than in the "low CRP-high LDL-C" group.
d. Women in the "low CRP-high LDL-C" group have higher cardiovascular events than in the "high CRP-low LDL-C" group.
e. None of the above statements are correct.
Cardiovascular Event-Free Survival Using Combined CRP and LDL-C Measurements