Treatment for dyslipidemia in older age: Who should be treated?

OVERVIEW

- Atherosclerotic cardiovascular disease (ASCVD), the leading cause of death in the USA, can most often be prevented and/or treated by following healthy life style and effective treatment of high cholesterol and hypertension.

- About 50% of all deaths in men and women >65 years of age are attributed to CHD
  - United States Preventative Task Force recommends screening all men 35 years or older and high risk women 45 years of older
  - No specific age recommendation for stopping screening

- ASCVD risk assessment for new treatment guidelines used sex- and race-specific (African American and non-Hispanic white) data for first myocardial infarction, coronary heart disease related death, or fatal or nonfatal stroke based on age, sex, race (including African American and non-Hispanic white) smoking, levels of total cholesterol and HDL-C, systolic blood pressure, antihypertensive therapy and diabetes.

- High cholesterol is common health problem among men and women older than 80 years of age
  - Controversy about when to stop treatment for hypercholesterolemia, but recommended to start treatment in patients with risk of ASCVD before reaching 80 years of age

AGE AND CHOLESTEROL LEVELS

- In men, cholesterol rises between onset of puberty and 50 years of age followed by a plateau until 70 years after which a mild lowering of levels is noted.
  - Changes in cholesterol levels are mostly affected by weight change

- In women, cholesterol rises between age 25 to 55 years, then remains similar to men until age 60 after which the levels are usually higher than levels found in men of similar age group

- In general, changes in cholesterol levels in old age are thought to be due to changes in LDL-cholesterol.

CONCERN FOR CONSIDERING TREATMENT IN OLD AGE

- Lack of data on treating high cholesterol in older age group (>80 years)

- Most studies (including randomized clinical trials and observational studies) support treatment using statin for secondary prevention of ASCVD and treatment in patients with diabetes without ASCVD

- No evidence of harm in using statins in older patients BUT points to consider before treating patients >80 years of age:
Life expectancy - Shorter life expectancy than younger individuals and there may be other competing cause of mortality, e.g., cancer, advanced dementia related complications with poor functional status.

Physiologic age – despite same chronological age, physiologic age varies based cognitive status, co-morbidities and frailty.

Traditional risk factors for ASCVD may not be good predictors of outcome when compared to younger individuals.

Polypharmacy – concern for drug reactions, more so in frail elderly.

Side effects of medications including statins (main therapy for high cholesterol), e.g., pain and cognition impairments, reported more severe in older adults with decreased physical activity, sarcopenia (decreased muscle mass) and falls.

**ASSESSMENT /DIAGNOSIS**

- Identify patients at risk
  - If therapy can reduce relative cardiovascular risk by about 20-30 percent regardless of baseline LDL-C.
    - Risk calculation can be done using “Framingham Risk Score” (preferred to start therapy for primary prevention) or “Pooled Cohort Equations”
  - History and physical examination
  - Laboratory testing: lipid profile (liver function test not routinely recommended unless concern for underlying abnormalities)

**PREVENTION/TREATMENT**

- Healthy life style
- Primary prevention in those between 40 to 75 years:
  - with diabetes and LDL levels 70-189 mg/dL
  - without diabetes but with a 10 year ASCVD risk of 5% to 7.5%
- Secondary prevention in those clinical ASCVD (acute coronary syndrome, myocardial infarction, stable angina, coronary or other arterial revascularization, stroke, transient ischemic attack, or peripheral arterial disease of atherosclerotic origin)
- Treat those with LDL levels of \( \geq 190 \) mg/dL.

**INTENSITY OF TREATMENT**

- High intensity (goal to decrease LDL levels by 50%)
  - for 75 years or younger with clinical ASCVD and no safety concern
- Moderate-intensity (goal to decrease LDL levels by 30%-50%)
  - for 75 year or younger with clinical ASCVD and safety concerns
  - for >75 years with clinical ASCVD
- Low-intensity recommended for those who cannot tolerate high- or moderate-intensity statins.
IMPORTANT POINTS

- It is recommended that both assessment/evaluation and intervention be modified for frail elderly older than 80 years of age prognosis and expectations of benefit
- Goals of care discussion in relation to prognosis and expectations of benefit is recommended prior to making any decision in the oldest of old age group
- Atherosclerosis regression are noticed between 6 months to 2 years of starting statin therapy
- Improvement of endothelial dysfunction may be expected as early as 3 days of starting statin therapy.

REFERENCES


