Managing Dyslipidemias in Chronic Kidney Disease

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This article is the ninth of a series about chronic kidney disease and its management based on the new National Kidney Foundation guidelines. If you missed previous articles in this series, please log onto the IHS website. Archived issues are found at the Clinical Support Center's web page.

The National Kidney Foundation published the Kidney Disease Quality Outcome Initiative (K/DOQI) Clinical Practice Guidelines on Managing Dyslipidemias in Chronic Kidney Disease (CKD) in September 2002. The following summarizes the recommendations.

Patients with CKD are in the highest risk category for risk factor management (CHD risk equivalent)

The incidence of atherosclerotic cardiovascular disease is higher in this population compared to the general population. Survival of end-stage renal disease patients continues to be poor, due in large part to cardiovascular disease (CVD). Besides lipid abnormalities, other "non-traditional" risk factors for CVD include disorders of calcium, phosphorus, parathyroid hormone, and homocysteine, and systemic inflammation. The K/DOQI guidelines focus on managing dyslipidemia.

Evaluation

All adults and adolescents with CKD and all kidney transplant recipients should have a complete lipid profile (fasting):

- At initial presentation with CKD
- 2 - 3 months after a treatment modality change or other condition known to cause dyslipidemia
- At least annually thereafter

The National Cholesterol Education Program Expert Panel on Children (NCEP-C) differs from KDOQI Dyslipidemia guidelines for adolescents in the risk categorization (CKD patients not managed differently versus high risk); frequency of evaluation (every five years versus upon presentation, change and annually); and treatment recommendations (see below).

Evaluate dyslipidemia for remediable, secondary causes.

Treatment

Assess for modifiable risk factors including hypertension; cigarette smoking; glucose intolerance or diabetes control; and obesity, at initial presentation and then at least annually.

Manage these modifiable risk factors according to pertinent existing guidelines.

Adult Treatment Recommendations (> 20 years of age):

- If fasting triglycerides (TG) $\geq$ 500 mg/dL (and no other underlying cause) use therapeutic lifestyle changes (TLC) and a triglyceride-lowering agent.
- If LDL $\geq$ 100 mg/dL, consider treating to reduce LDL to < 100 mg/dL.
- If LDL < 100 mg/dL and fasting TG > 200 mg/dL and non-HDL cholesterol (total cholesterol minus HDL) $\geq$ 130 mg/dL; consider treating to reduce non-HDL cholesterol to < 130 mg/dL.
- Fibrates may be used in Stage 5 CKD if TG $\geq$ 500 mg/dL or if TG $\geq$ 200 mg/dL with non-HDL cholesterol $\geq$ 130 for those who do not tolerate statins.

Adolescent Treatment Recommendations:

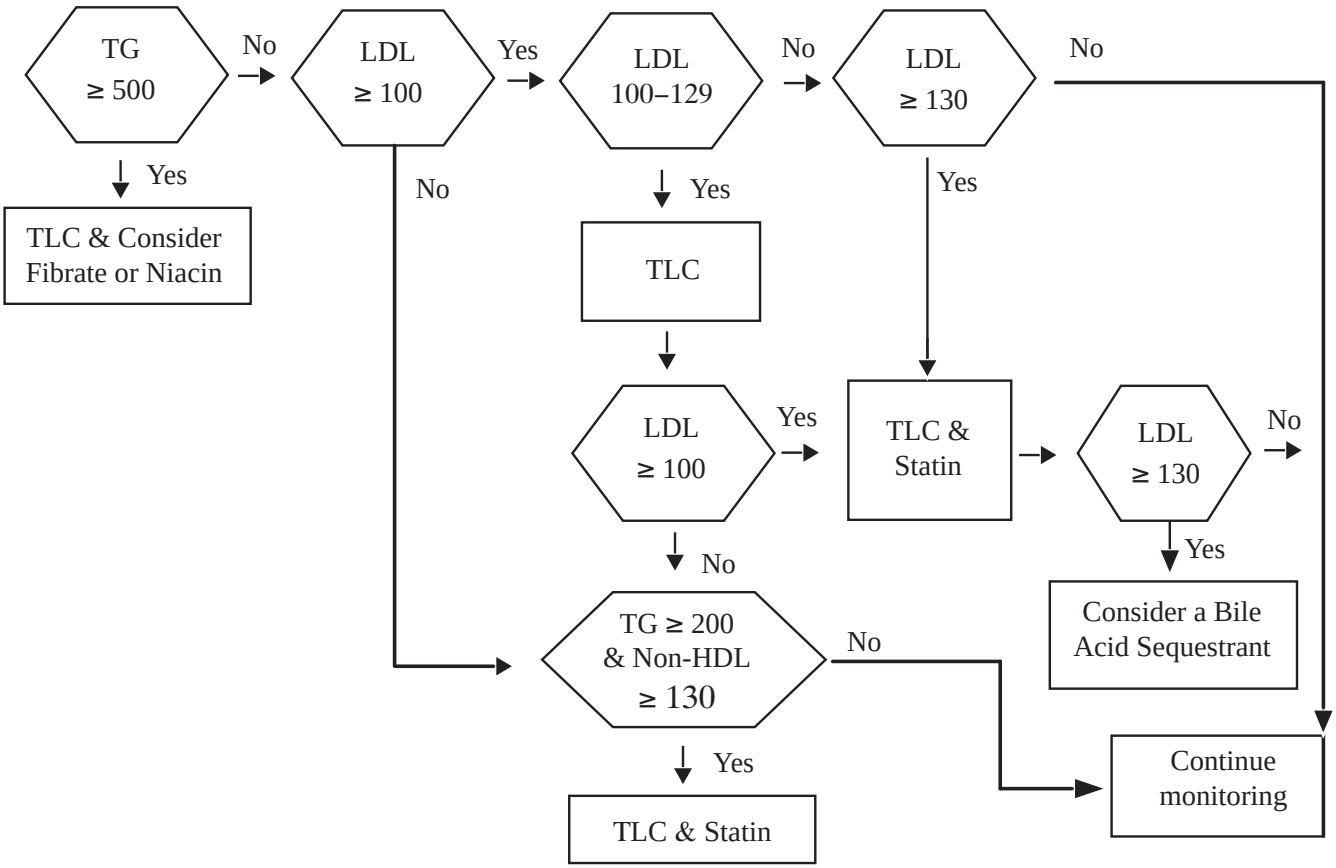
- If fasting triglycerides (TG) $\geq$ 500 mg/dL (and no other underlying cause) use therapeutic lifestyle changes (TLC).
- If LDL $\geq$ 130 mg/dL, consider treating to reduce LDL to < 130 mg/dL.
- If LDL < 130 mg/dL and fasting TG > 200 mg/dL and non-HDL cholesterol (total cholesterol minus HDL) $\geq$ 160 mg/dL; consider treating to reduce non-HDL cholesterol to < 160 mg/dL.

Therapeutic lifestyle changes (TLC) involves diet, weight management, and physical activity. The TLC diet goals include < 7% calories from saturated fat, and cholesterol intake < 200 mg/day. A goal of 10 - 25 grams of soluble fiber and 2 grams of plant stanols/sterols should also be considered. Refer patients to a Registered Dietitian for TLC intervention.

A number of potentially important clinical trials involving kidney patients may provide additional information in the next few years. The KDOQI dyslipidemia guidelines should be updated within three years. This may happen sooner if new information is available. Until that time, consider CKD patients to be high risk for cardiovascular disease and its associated morbidity and mortality and treat accordingly.

An algorithm for treating dyslipidemia in adults appears on page 115. □

KDOQI DYSLIPIDEMIA ADULT TREATMENT RECOMMENDATIONS



LDL = low density lipoprotein
TLC = therapeutic lifestyle changes
Non-HDL = total cholesterol minus HDL
TG = triglycerides.