Lipid Management from Pre-conception to Pregnancy through Lactation

EDUCATION FOR CLINICIANS FROM THE NATIONAL LIPID ASSOCIATION

Managing elevated low-density lipoprotein cholesterol (LDL-C) and triglycerides (TG) before, and during pregnancy and lactation can be challenging. During uncomplicated pregnancies LDL-C levels can increase up to 60%, TG by 200% (but not usually >250 mg/dL). Lifestyle modifications remain a cornerstone of treatment including a heart-healthy eating plan, weight management, and an exercise plan consistent with obstetrical guidelines. Guidance for the use of lipid-lowering medications is less clear, in large part due to a lack of research data for pregnant women.

1. Assess a fasting lipid panel before conception if possible. If not done, baseline lipid status can be estimated from a panel done as early in the pregnancy as possible.
2. If LDL-C or TG are elevated, look for and address contributing factors: diabetes, thyroid disease, nephrotic syndrome or other renal dysfunction, medications, diet and lifestyle, and family history.
3. Calculate 10-year and lifetime ASCVD risk using the ACC ASCVD Risk Estimator or the Pooled Cohort Equation
4. Review previous lipid panel results and treatment, if any.
5. Decide if treatment is indicated based on ASCVD risk:

Low to usual ASCVD risk	» Discontinue therapy until after pregnancy and lactation. » Bile sequestrants and/or prescription omega-3 agents can be considered, if needed. These are considered safe in pregnancy but can have tolerability issues.
High ASCVD risk	» See lipid-lowering medications table, "Disorder" column.

6. Any lipid lowering agents, if needed, may be best delayed until after the first trimester of pregnancy to reduce teratogenic risk.
7. Monitor lipid levels in high-risk women at the start of the second trimester, consider monthly levels during the third trimester if TG exceed 250 mg/dL. Recheck lipid levels six weeks post-partum.
8. For medication use during lactation consult the "NIH Drugs and Lactation Database": *www.ncbi.nlm.nih.gov/books/NBK501922*

Please see next page for lipid-lowering medications table.

Therapy	Disorder	Pre-conception	Pregnancy	Lactation
Statins+	HeFH, HoFH, prior ASCVD, high risk due to multiple risk factors	1. Primary prevention – stop 2. DM or ↑ ASCVD risk – stop and monitor 3. HeFH, HoFH – patient-clinician discussion+	See pre-conception	See pre-conception
Bile Acid Sequestrants^	HeFH, HoFH	Considered safe to use if TG <400 mg/dL	See pre-conception	See pre-conception
Fibrates*	TG ≥1000 mg/dL (to ↓ risk of pancreatitis)	Assess benefits vs risks	Consider during 2nd trimester if TG ≥500 mg/dL or if history of pancreatitis associated with TG ≥1000 mg/dL	Can resume 5 days after completing lactation
Ezetimibe*	HeFH, HoFH	**Avoid use**	**Avoid use**	**Avoid use**
Bempedoic acid*	HeFH, HL w/ASCVD	Stop unless benefit > risk to fetus*	**Avoid use**	**Avoid use**
Prescription Omega-3 fatty acids⁎	Very high TG (HTG) >1000 mg/dL (to ↓risk of pancreatitis)	Not contraindicated* Dietary supplement omega-3 is never recommended	Prescription omega-3 acid-ethyl-esters in 2nd trimester if TG ≥500 mg/dL or if history of pancreatitis associated with TG ≥1000 mg/dL (added to omega-3 pregnancy supplements)	Prescription omega-3 acid-ethyl-esters if TG ≥500 mg/dL or if history of pancreatitis associated with TG ≥ 1000 mg/dL (added to omega-3 lactation supplements)
Alirocumab/ evolocumab*	HeFH, HoFH	**Avoid use**	**Avoid use**	**Avoid use** if possible, especially while nursing newborn or preterm infant*
Inclisiran*	HeFH, HoFH	**Avoid use**	**Avoid use**	**Avoid use**
Evinacumab*	HoFH	**Avoid use**	**Avoid use**	**Avoid use**
Lomitapide	HoFH	**Avoid use**	**Avoid use**	**Avoid use**
Plasma exchange (plasmapheresis)	Severe HTG	Highly effective and considered safe	See pre-conception	See pre-conception
LDL apheresis	HoFH or HeFH w/ASCVD	Highly effective and considered safe	See pre-conception	See pre-conception

ASCVD= atherosclerotic cardiovascular disease ; DM= diabetes mellitus ; HeFH= heterozygous familial hypercholesterolemia; HoFH= homozygous familial hypercholesterolemia ; HTG= severe hypertriglyceridemia.

+ If the decision is made for statin therapy, consider hydrophilic pravastatin.
⁎ No adequate, well-controlled studies in pregnant or lactating women to evaluate for safety.
^ Monitor for vitamin K deficiency.