MacLeod Diabetes & Endocrine Centre
Royal Devon & Exeter Hospital

Lipids in type 2 diabetes – based on NICE CG181

Lipid measurements

- Fasting sample not now required.
- Measure total, HDL, non-HDL cholesterol and triglycerides.

Who should not be offered lipid-lowering treatment?

- Do **not** use if pregnancy is contemplated.
- Do **not** use if previous serious adverse event, e.g. rhabdomyolyis, with clear or strongly suspected causal link to statins (NB see advice below on side effects).
- Do **not** use if there are muscle pains with CK persistently >5xULN (see below).
- Do **not** use "in active liver disease" (BNF) or with ALT >3 xULN (NICE CG181).

Who should now be recommended lipid-lowering treatment (NICE CG181)?

- All patients with estimated 10-year CVD risk of 10% or greater, using QRISK2.

Who previously was recommended lipid-lowering treatment?

- All patients ≥40 years old, unless CV risk considered low and UKPDS 10-year risk <20%.
- Patients <40 years with poor CV profile (features of metabolic syndrome, microalbuminuria, at risk ethnic group, FH of premature CVD).

Treatment:

- **Offer atorvastatin 20mg, irrespective of initial cholesterol/lipid levels**.
- **Increase the dose if needed to meet targets**:
  - 40% reduction in non-HDL cholesterol

Monitoring – myalgia

- NICE CG181 advises: (1) Do not routinely measure CK (2) Ask about generalised muscle pains before starting statin therapy; if present, measure CK (3) If CK >5xULN, re-measure after 7 days; if still >5xULN do not start statin; if falls <5xULN then start statin at lower dose (not specified, presumably atorvastatin 10mg).
- NICE CG181 advises measuring CK if people receiving a statin develop muscle symptoms, but no routine monitoring if asymptomatic.
- We would add the following comments on myalgia and statins:
  - Trials consistently show no association. In a very large meta-analysis, myalgia was reported by 30% of statin-treated and 30% of placebo-treated patients.
  - In "n=1" trials, patients thought to be statin-intolerant have shown no difference in muscle symptoms when re-challenged with statin or placebo.
  - It is clear that most "side effects" of statins are unrelated coincidental symptoms. Very rare idiosyncratic reactions cannot be ruled out, but statins are valuable for cardiovascular risk, and in the absence of confirmed raised CK we strongly encourage trying again, perhaps lower dose/different statin.

Monitoring – liver

- Measure LFTs before starting statin, and at 3 and 12 months. Do not monitor again unless clinically indicated.
- Do not routinely avoid statins if ALT raised but below 3xULN.

Triglycerides

- CG181 advises urgent referral if TG>20 mmol/L, but we do not feel this is warranted.
- Very high TGs are often due to poor glycaemic control, or alcohol, or poor diet. These should be addressed before seeking specialist advice.
- If TG remain >7.5 mmol/L after addressing glycaemic control, alcohol and diet, consider starting fenofibrate or refer for specialist advice.

Other lipid-lowering drugs

- CG181 says "do not routinely offer" fibrates and "do not offer" Q10, nicotinic acid, bile acid sequestrants or omega-3.
- Formulary advises that Omacor can be used for severe hypertriglyceridaemia.
- Ezetimibe guidance refers to NICE TA132. In brief, can be used as monotherapy if intolerant of statins, or added to statins if not achieving targets.

Flowchart