LOTHIAN LIPID MANAGEMENT IN ADULTS GUIDELINE NOVEMBER 2017

A Guide to Best Practice in Lothian revised in line with updated NICE 2016 Guidelines

Produced by the Lothian Lipid Guidelines Group for newly initiated treatment with lipid lowering therapy.
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1. IDENTIFYING AND ASSESSING CARDIOVASCULAR DISEASE (CVD) RISK

People with an ***estimated 10-year risk of CVD >10%*** should undergo full CVD risk assessment. Please consider that these tools only approximate risk and interpretation should reflect informed clinical judgement.

1.1. Clinical assessment

This will focus on *secondary causes,* other *vascular risk factors* and evidence of *end organ damage*.

- History – personal and/or family history of CVD, lifestyle including alcohol, smoking & diet
- Drug history – thiazides, β-blockers, retinoids, anti-retrovirals, synthetic oestrogen/progesterone, anti-psychotics, corticosteroids and immunosuppressants
- Examination – BP, BMI, arrhythmias, peripheral vascular disease, heart failure, signs of hyperlipidaemia & fundoscopy
- Urine (blood, protein & glucose)
- ECG, if clinically indicated

1.2. Biochemical tests (all can be taken non-fasting)

- Full lipid profile – total cholesterol, LDL, HDL & triglycerides (see section 5 for further details)
- TFTs
- Creatinine/eGFR
- LFTs – focussing on ALT and GGT
- Blood glucose (click here for more information on the diagnostic work-up for diabetes)

1.3. Estimation of CVD risk

1.3.1. Primary prevention ASSIGN (http://cvrisk.mvm.ed.ac.uk/calculator/calc.asp)select CVD ASSIGN) is the preferred calculator in Scotland. QRISK2 (http://www.qrisk.org) is an alternative. CVD risk calculators should be used to assess 10-year cardiovascular risk in those 25-84 years old (inclusive). Please be aware that CVD risk calculators underestimate risk up to 2-fold in those with obesity, HIV, systemic inflammatory conditions, serious mental health problems, those already on antihypertensive treatment and in certain ethnic populations, particularly south Asian men. Do not use the CVD risk assessment calculators in those with T1DM, CKD or familial hypercholesterolaemia (FH). QRISK2 can be used for risk assessment in T2DM, see section 2.2.4 for recommended lipid management in DM.

1.3.2. Secondary prevention Do not use the CVD risk assessment calculators in those with established CVD.

2. MANAGEMENT

Treatment thresholds in primary prevention

Estimated 10-year cardiovascular risk >20%
Offer statin treatment

Estimated 10-year cardiovascular risk 10-20%
Discuss lifestyle modification and consider statin treatment

Estimated 10-year cardiovascular risk <10%
Reassess at intervals based on clinical judgement

Annual assessment in those requiring treatment is recommended. Treatment of older patients (≥85 years) in primary prevention is a judgement based on frailty, patient choice and benefit from treatment (reduces non-fatal myocardial infarction).

2.1. Lifestyle modification may help: (i) improve lipid profile; (ii) reduce BP; and (iii) reduce overall CVD risk.

- Weight – aim for BMI 20–25 but even modest weight loss reduces morbidity. For support access Lothian weight management service
- Diet – ↓salt, ↓saturated fat, ↑fruit, ↑vegetables, ↑oily fish
- Exercise – ideally 30+ minutes 3 times a week
- Alcohol – weekly limits (≤14 units in men and women)
- Smoking – cessation vital to ↓ overall CVD risk. NRT may help

Do not routinely recommend plant stanols/sterols to patients at risk of CVD.

2.2. Pharmacological management Atorvastatin is now the first-line agent (based on evidence, cost and efficacy).

2.2.1. Primary prevention Atorvastatin 20 mg.

2.2.2. Secondary prevention Atorvastatin 40–80 mg.

2.2.3. Patients with CKD Atorvastatin 20 mg.

***2.2.4.* Patients with Type 1 or Type 2 diabetes** Consider atorvastatin 20 mg. Most people with Type 2 diabetes aged over 40 should be offered treatment with a statin and it should be considered in Type 1 diabetes. A positive decision NOT to prescribe statin may be considered at ages 40–50 when there are no other CVD risk factors. Patients with evidence of nephropathy are at high cardiovascular risk and should be treated intensively.

2.3. Aims of treatment and targets

2.3.1. Primary prevention Provide annual medication reviews for people taking statins. Use these reviews to discuss adherence with medications, lifestyle modification and address CVD risk factors. Consider a non-fasting total cholesterol and LDL to inform the discussion. There are no specific targets identified for primary prevention.

2.3.2. Secondary prevention and those taking high intensity statin treatment i.e. ≥40 mg atorvastatin or ≥20 mg rosuvastatin. Measure total cholesterol, LDL and HDL cholesterol in all people who have been started on statin treatment at 3 months of treatment and aim for a LDL cholesterol of <2 mmol/L. If this target is not achieved, discuss adherence, optimise lifestyle measures and increase the dose. Atorvastatin 80 mg is the target dose in those that have not encountered adverse effects.

3. MONITORING STATIN ADVERSE EFFECTS AND INTOLERANCE Consider using a lower dose of atorvastatin if any of the following apply: potential drug interactions, high risk of adverse effects (detailed in section 3.2) or patient preference.

3.1. Statin-drug interactions Atorvastatin and simvastatin are prodrugs metabolised predominantly by the cytochrome P450 system; therefore, drugs that induce/inhibit these enzymes will affect plasma statin concentrations (pravastatin and rosuvastatin are not metabolised by P450). Advise patients that some drugs (warfarin; macrolides e.g. clarithromycin; calcium channel blockers e.g. amlodipine), foods (grapefruit juice) and supplements (St John's Wort) may interfere with statin metabolism. Further advice is available from the MHRA regarding atorvastatin and simvastatin drug interactions. Remind patients always to consult the patient information leaflet, a pharmacist or prescriber before starting any new medication (for further advice consult the BNF).

3.2. Monitoring adverse effects

3.2.1. Liver function tests Measure baseline LFTs before starting a statin. Measure ALT within 3 months of starting treatment and at 12 months, but not again unless clinically indicated. Consider statin therapy in those with an elevated ALT but <3 x the upper limit of normal. If further derangement seen consult RefHelp

3.2.2. Myopathy If a patient is complaining of generalised muscle pain prior to commencing statin, check a CK.

- If CK >5 x upper limit of normal, investigate for myopathy and postpone statin treatment.
- If CK elevated but <5 x upper limit of normal, start a lower intensity statin treatment, such as ≤20 mg atorvastatin, ≤20 mg simvastatin, ≤20 mg pravastatin or 5mg rosuvastatin. For advice regarding dosage intensities, please consult the ACC/AHA guideline.

3.2.3 Statin intolerance Statins are more effective than any other lipid lowering option. If someone reports adverse effects when taking statins discuss: (i) stopping the statin and trying again when the symptoms have resolved to check if the symptoms are related to the statin; (ii) reducing the dose within the same intensity group; or (iii) changing the statin to a lower intensity group, as detailed in 3.2.2.

3.2.3.1 *Ezetimibe* There may be a role for ezetimibe in secondary prevention in patients who are statin intolerant (intolerance to ≥3 agents) or those who fail to achieve target LDL on maximum tolerated dose of statin. Consider referral for specialist advice.

3.2.3.2 Other drugs Nicotinic acid, bile acid sequestrants and fibrates are no longer recommended for the management of hypercholesterolaemia.

3.2.4 Risk of type 2 diabetes mellitus Some statins slightly increase the risk of diabetes in a dose-dependent fashion. This may be more likely in older individuals. In those with a 10-year cardiovascular risk >10% who meet criteria for treatment, the benefits of CV risk reduction exceed any risk of diabetes.

3.2.5 Pregnancy Statin use is strictly contraindicated in pregnancy.

4. SPECIALIST REFERRAL ● Definite or probable heterozygous familial hypercholesterolaemia (FH) ● Intolerance to ≥3 different statins ● Complex risk assessment. Please exclude and manage possible common secondary causes of dyslipidaemia (such as excess alcohol, uncontrolled diabetes, hypothyroidism, liver disease and nephrotic syndrome) before referring for specialist review.

4.1 Familial hypercholesterolaemia (FH) Patients with the condition are at especially high risk of premature cardiovascular disease. It has an autosomal dominant inheritance and is defined using the Simon Broome criteria:

Definite FH:

- Total cholesterol >7.5 mmol/l or LDL >4.9 mmol/l

  PLUS
- Tendon xanthomas in the patient or a 1st/2nd-degree relative.

Probable FH:

- Total cholesterol >7.5 mmol/l or LDL >4.9 mmol/l

PLUS, one of either:

- Family history of MI: <60 years in a 1st-degree relative or <50 in a 2nd degree relative.

OR

- Cholesterol >7.5 mmol/L in a 1st/2nd-degree relative

5. HYPERTRIGLYCERIDAEMIA A non-fasting triglyceride level above the normal range (>2 mmol/L) should be repeated on a fasting sample to confirm the diagnosis. Rule out hypertriglyceridaemia secondary to alcohol excess, obesity, diabetes, drugs (e.g. steroid hormones) or other diseases (e.g. hypothyroidism).

- In people with a fasting triglyceride concentration >10 mmol/litre, consider a fibrate and seek specialist advice. This treatment is indicated to reduce the risk of pancreatitis.
- In people with a triglyceride concentration of 4.5–9.9 mmol/litre, no specific pharmacological management is indicated. However, be aware that risk assessment tools will underestimate the CVD risk, so aim to optimise the management of other CVD risk factors.

Further local advice is available from:

RIE lipid clinic RIE.LipidClinicAdvice@luht.scot.nhs.uk

WGH cardiovascular risk clinic WGH.CardiovascRiskAdvice@luht.scot.nhs.uk

Further information:

NICE Guidelines for Lipid Modification (CG181) http://www.nice.org.uk/guidance/cg181

JBS3 recommendations for prevention of CVD http://heart.bmj.com/content/100/Suppl_2/ii1.full

Lothian Guidelines for the Management of Hypertriglyceridaemia: here

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