Lipid management in patients with primary heterozygous familial hypercholesterolaemia and or vascular disease and recommendations for use of Alirocumab and Evolocumab

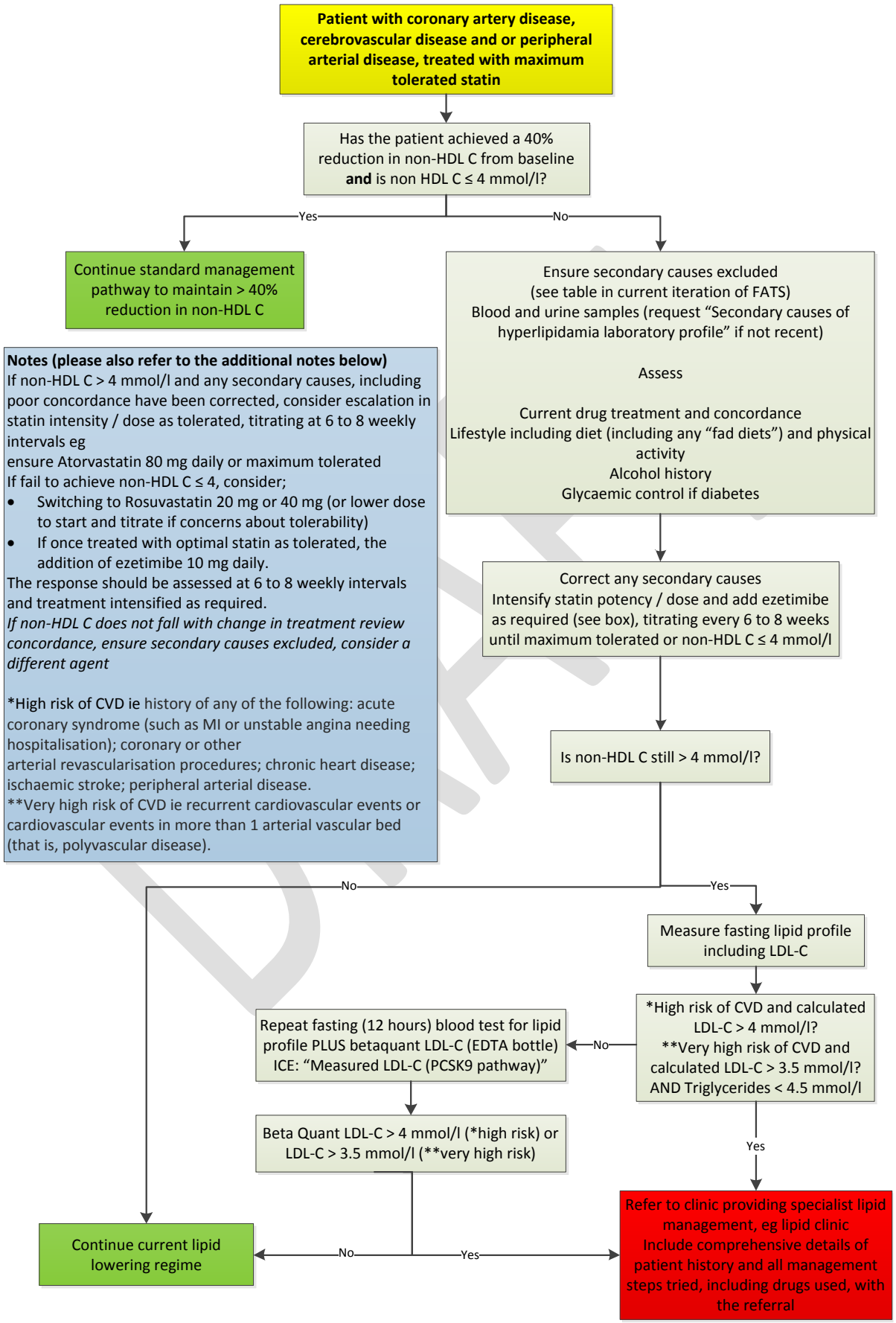
NICE have published TAGs recommending the PCSK9 inhibitors, Alirocumab[1] and Evolocumab[2], (monoclonal antibodies that inhibits proprotein convertase subtilisin/kexin type 9 (PCSK9), an enzyme involved in down regulation of low-density lipoprotein receptors) as options for treatment of high risk patients with uncontrolled severe hypercholesterolaemia or mixed dyslipidaemia. These TAGs set out criteria for these drugs (given as a subcutaneous injection) to be considered as an option in lipid management.

Patients with primary heterozygous familial hypercholesterolaemia (HeFH) and LDL-C concentration persistently above 5 mmol/l despite maximum tolerated lipid lowering therapy and who may be eligible for treatment with one of these agents should already be under the care of a specialist clinic for lipid management and if not should be referred.

Some non-FH patients with vascular disease are also eligible for treatment. The flow chart below describes a pathway to assess patients with atheromatous vascular disease (coronary, cerebrovascular disease and peripheral arterial disease) and which patients should be referred to a specialist clinic for lipid management.

[1] https://www.nice.org.uk/guidance/ta393
[2] https://www.nice.org.uk/guidance/ta394

Assessment of patients with vascular disease in primary care and hospital clinics



Additional notes about the pathway

*High risk patients of CVD are identified by NICE as being those with a history of any of the following: acute coronary syndrome (such as MI or unstable angina needing hospitalisation); coronary or other arterial revascularisation procedures; chronic heart disease; ischaemic stroke; peripheral arterial disease and **very high risk of CVD those with recurrent cardiovascular events or cardiovascular events in more than 1 arterial vascular bed (that is, polyvascular disease).

Patients who have a non-HDL cholesterol greater than 4 mmol/l following correction of any secondary causes and optimisation of statin treatment, with or without ezetimibe should be further assessed with a LDL cholesterol. Initially this is a calculated LDL-C from a fasting lipid profile with referral to a specialist clinic for lipid management if the criteria are met (see the flow chart). If the LDL-C criteria are not met, or the triglycerides are greater than 4.5 mmol/l and hence the LDL-C cannot be calculated accurately, blood should be taken for a Beta Quant LDL-C measurement with a repeat fasting lipid profile at the same time. This should be requested on ICE as “Measured LDL-C (PCSK9) pathway”.

Specialist clinic for lipid management

- Following referral to a specialist clinic for lipid management, patients will have specialist assessment including a detailed dietary assessment.
- Patients who are otherwise optimally managed and who have a LDL-C confirmed as fulfilling the criteria for considering treatment with a PCSK9 inhibitor will have this discussed with them.
- The PCSK9 inhibitor with the lowest acquisition costs will generally be preferred.
- If treatment with a PCSK9 inhibitor is being started, patients will receive appropriate education about this and patients being treated with one of these agents will remain under the management of the specialist clinic for their prescribing and monitoring (by non-fasting non-HDL-Cholesterol).
- Patients treated with a PCSK9 inhibitor who fail to achieve at least a 20% reduction in non-HDL-Cholesterol within 3 months will be reassessed to ensure concordance with management, including appropriate dietary compliance, and to ensure that no secondary causes have developed.
- Primary non-responders to treatment (less than 20% reduction in non-HDL-Cholesterol) will have their management reviewed including whether they should still continue treatment with a PCSK9 inhibitor.