LOW DENSITY LIPOPROTEIN CHOLESTEROL MONITORING IN ISCHAEMIC HEART DISEASE PATIENTS

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Background: The 2016 European Society of Cardiology (ESC)/European Atherosclerosis

Society (EAS) Guidelines for the Management of Dyslipidaemias recommend a target low density lipoprotein cholesterol (LDL-C) goal of <1.8 mmol/L, or at least 50% reduction from baseline.

Aim: To assess LDL-C control in patients with ischaemic heart disease (IHD).

Setting and Method: Following ethics approval, 200 patients ≥18 years, who had coronary angiography performed between 1 December 2014 and 31 March 2015, diagnosed with IHD and referred for percutaneous coronary intervention (PCI), coronary artery bypass graft (CABG) surgery or medical treatment, were consecutively identified from the Philips CardioVascular Information System (CVIS) at the cardiac catheterisation suite. Patients with normal angiogram, previous PCI/CABG and foreigners on vacation were excluded. Baseline (at time of angiogram) and follow-up LDL-C levels (at 6-12, 13-18, 19-24 months from baseline) were recorded from iSoft Clinical Manager. Statin therapy was recorded from CVIS and via telephone contact. IBM SPSS Statistics 24 was used for data analysis.

Main outcome measures: LDL-C control and statin therapy changes.

Results: Of the 200 patients (72.5% male, mean age 66.82 ±10.07 range 43-89 years), 67% (n=133) were referred for PCI post-angiogram. Two patients passed away at 6-12 months, hence data for 198 patients was analysed at 13-18 and 19-24 months.

LDL-C level was recorded for 97% (n=194) of patients at baseline (12.4% at target), 74.5% (n=149) of patients at 6-12 months (37.6% at target), 69.2% (n=137) of patients at 13-18 months (37.2% at target) and 70.2% (n=139) patients at 19-24 months (40.3% at target). For 9, 4 and 7 patients who did not achieve target LDL-C, at least 50% LDL-C reduction from baseline was achieved at 6-12 months, 13-18 months and 19-24 months, respectively.

Mean LDL-C in mmol/L was 2.98 ±1.04 (range 0.59-5.58) at baseline, 2.11 ±0.71 (range 1.01- 4.99 at 6-12 months, 2.15 ±0.72 (range 0.87-5.09 at 13-18 months, and 2.07 ±0.62 (range 0.88-4.32) at 19-24 months. Mean LDL-C at baseline was significantly higher than mean LDL- C at 6-12, 13-18 and 19-24 months (p<0.001). Mean LDL-C at all timepoints studied was significantly higher than the 1.8 mmol/L target (p<0.001). At baseline, 97.5% (n=195) of the patients were on statin therapy, mostly simvastatin (88.2%, n=172). At 19-24 months, a change in statin was recorded

in 24% (n=47) of the patients, mostly simvastatin to atorvastatin (n=38). Mean LDL-C reduction from baseline to 19-24 months when statin was changed (1.37 mmol/L) was significantly larger than the mean LDL-C reduction obtained when the statin was unchanged (0.74 mmol/L) (p=0.001). When the statin was unchanged, the same dose was mantained in 129, increased in 8 and decreased in 7 patients. Mean reduction in LDL-C from baseline to 19-24 months when dose was unchanged was 0.70 mmol/L, was largest when dose was increased (1.50 mmol/L) and smallest when dose was decreased (0.37 mmol/L) (p=0.030).

Conclusions: Mean LDL-C level from baseline decreased; however, mean LDL-C at all timepoints studied was significantly higher than the ESC/EAS target. Changing simvastatin therapy to newer generation statins resulted in a significantly larger mean LDL-C reduction compared to patients kept on simvastatin.