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Treatment of Hypercholesterolaemia with PCSK9 Inhibitors in Denmark. Assessment of real-life data; Extent and Efficacy after the first years of clinical use

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Topic(s):
Lipid-Lowering Agents

Citation:
Introduction: Proprotein convertase subtilisin/kexin type 9 inhibitors (PCSK9 I) are a new group of drugs for treatment of hypercholesterolaemia. At present there are two available drugs evolocumab and alirocumab, which lowers low-density lipoprotein cholesterol (LDL-C) by inhibiting the enzyme proprotein convertase subtilisin/kexin type 9. Both evolocumab and alirocumab outcome data (FOURIER and ODYSSEY OUTCOMES respectively) have shown a reduced risk of myocardial infarction, stroke, and coronary revascularization without adverse effects. Patients included in these trials had existing atherosclerotic cardiovascular disease and all patients received maximum-tolerated statin. In the FOURIER trail 100 % of the patients received statin and 69 % high intensity statin, in the ODYSSEY trial was 98 % and 89 %, respectively

Purpose: In collaboration with lipid clinics in Denmark we aimed to describe the clinical characteristics of patients treated, along with the efficacy of LDL-C reduction of such treatment in a real-life population.

Methods: We contacted lipid and cardiological clinics throughout Denmark and obtained clinical data on the majority of patients treated with PCSK9 I in Denmark between October 1st, 2015 and May 1st, 2018. A database containing information on medical history, medications used prior to PCSK9 I initiation, adverse events and plasma lipids including LDL-C was created. Records of baseline LDL-C and at follow up visits were analysed.

Results: From October 1st 2015 to may 1st2018, 383 patients were enrolled; an estimated 90% of all patients in Denmark. The distribution of clinical indications for PCSK9 I initiation is shown in figure 1. A total 243 of these patients (63.4%) were characterised as statin intolerant and 225 (58.7%) had familial hypercholesterolaemia. More than two thirds (69.5%) of the patients were given PCSK9 Inhibitors as secondary prophylaxis. Overall LDL was significantly reduced from 5.11 mmol/L (CI [4.95;5.28]) to 2.46 mmol/L (CI [2.33-2.68]) after the first month of treatment, corresponding to a 48.9% decrease in LDL-C, which persisted without significant changes throughout the two years of observation. Even with this reduction, only about half of the population of both primary and secondary prevention reached their treatment target. This remained unchanged in patients with familial hypercholesterolaemia an those with statin intolerance (Table 1). A subgroup analysis showed a significantly lower LDL in the first 12 months when PCSK9 I were combined with statins versus PCSK9 I as monotherapy (p<0.05) (results not shown).

Conclusion: Patients treated with PCSK9 I in this real-life do not resemble the populations in the major endpoint studies, as the majority in this real-life population are statin intolerant. Nevertheless, we see an overall
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Conclusion: Patients treated with PCSK9 I in this real-life do not resemble the populations in the major endpoint studies, as the majority in this real-life population are statin intolerant. Nevertheless, we see an overall reduction of LDL of approx. 50%, even though the number of patients reaching their treatment target remains low (approx. 50% at best).