First report of inclisiran utilization for hypercholesterolemia treatment in real-world clinical settings in a middle east population

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Purpose

Inclisiran is the first small interfering RNA (siRNA)-based treatment approved to reduce pro-atherogenic lipoproteins in patients with heterozygous familial hypercholesterolemia (HeFH) or clinical atherosclerotic cardiovascular disease (ASCVD), who require additional lowering of low-density lipoprotein cholesterol (LDL-C). We report, to the best of our knowledge, the first evaluation of its effects in a Middle Eastern population.

Methods

Retrospective review of patients initiating inclisiran treatment at an outpatient Diabetology/Endocrinology and Cardiology Centre between May 2021 and December 2022. All individuals followed up for R90 days or with at least one lipid determination post-initiation were included. Participants were categorized into primary (nZ57) and secondary prevention (nZ89) groups according to previous ASCVD.

Results

Inclisiran was initiated in 146 individuals, meanGS.D. age 54.8G12.12 years, 82 (56.2%) males, 28 (19.2%) with FH diagnosis, 89 (61%) with Diabetes Mellitus (DM) and 35 (23.9%) with statin intolerance. Median follow-up was 137 (90– 193) days. At 90 days, median (IQR) reductions in serum LDL-cholesterol (LDLC), and triglycerides were respectively K37.9% (K9.5%; K51.2%), K12.0% (K9.8%; K40.5%) in primary prevention, and K54.1% (K17.1%; K71.4%), and K15.3% (K14%; K38.8%) in secondary prevention (all P-values ! 0.001). LDL-C goals were attained in 110 (75.3%) patients. Non-attainment of LDL-C goal was attributed to system effect in 26 (72.2%), biological effect in 5 (13.9%), and discontinuation of treatment in 5 (13.9%) patients. Therapy was well tolerated.

Conclusion

To the best of our knowledge, this current study is the first from the Middle East and North Africa (MENA) region that reports the real-world efficacy and safety of inclisiran in a mixed-risk population of individuals with HeFH and other non-FH indications. Clinically meaningful and sustained reductions in pro-atherogenic lipids with good tolerability were observed after inclisiran initiation.

Keywords: Inclisiran, small interfering RNA (siRNA), Familial hypercholesterolemia, Atherosclerotic cardiovascular disease, Low-density lipoprotein cholesterol, Diabetes Mellitus, PCSK9-inhibitor.