**TO COMPARE THE “REAL WORLD” EFFICACY OF PROPROTEIN CONVERTASE SUBTILISIN-KEXIN TYPE 9 (PCSK-9) INHIBITORS ALIROCUMAB VERSUS EVOLOCUMAB ON LDL LOWERING IN PATIENTS PRESENTING WITH DYSLIPIDEMIA: A SINGLE CENTER EXPERIENCE**

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**Background:** Despite the use of maximally tolerated statins in patients with dyslipidemia and cardiovascular disease, the target LDL is occasionally not achieved. With the introduction of PCSK 9 (proprotein convertase subtilisin-kexin type 9) inhibitors which are human monoclonal antibodies, the probability of attaining target LDL levels has increased. But there are no studies comparing efficacy of Alirocumab and Evolocumab.

**Objective:** This study compares the “real world” lipid lowering efficacy of Alirocumab and Evolocumab

**Methods:** This is a single center retrospective chart review of patients who received PCSK9 inhibitor from January 1, 2015 to December 31, 2016 using pooled data from electronic medical records. The patients were divided into two groups: Alirocumab group and Evolocumab group based on the type of PCSK 9 inhibitor they received. The baseline LDL levels were done within 1 month prior to starting therapy and later again after 6 months post initiating PCSK9 therapy. The delta LDL (change in LDL) was compared between the two groups and efficacy was compared based on the change in LDL levels adjusted to baseline values. Statistical analysis was performed using both paired and independent two-sample student t tests, as well as linear regression.

**Results:** There were 36 patients in Alirocumab group with average age of 61.3±10.7years and 44% of males versus 28 patients in the Evolocumab group with average age of 61.4±9.7 years and 36% of males. The average BMI was 32.5±6.7kg /m2 in Alirocumab group versus 31.7±5.4kg/m2 in the Evolucumab group. Also the Pre PCSK9, mean LDL was 147.8±65.2 mg% versus 155.1±66.8 mg% (p-value=0.6617) and post PCSK9, mean LDL was 105.9±60.7 mg% versus 89±52.7 mg% (p-value=0.2480) in Alirocumab group versus Evolucumab group respectively. The mean delta LDL was marginally higher in group Evolucumab group with an average fall of 66.1±58.7 mg% versus 41.9±47.8 mg% in the Alirocumab group adjusted for baseline values(p-value=0.0668).

**Conclusion:**This study concludes that although PCSK9 inhibitors significantly reduced LDL, neither of Evolucumab or Alirocumab was a more effective therapy. However, there was a trend towards Evolocumab being more efficient in our study.