The inverse link between AF and cholesterol level that distinguishes statin users from non-users has not been thoroughly evaluated.

**Objective:** We investigated the TC - AF and LDL-C - AF relationships in statin users and non-users, respectively.

**Methods:** From the Korean National Health Insurance Service database, we included 9,778,014 adults who underwent a health examination in 2009 and had no prior AF history. The levels of TC and LDL-C at the health exam were categorized in quartile (Q) and decile (D) values of the total study population. The study population was grouped into statin users and non-users, and TC - AF and LDL-C - AF relationships were evaluated.

**Results:** 867.336 (8.9%) were on statin use among the total population. Statin users showed higher TC level (208.4 ± 55.6 vs. 194.1 ± 39.5 mg/dL, p<0.001) and LDL-C level (123.0 ± 102.2 vs. 121.3 ± 226.3, p=0.001) compared to non-users. The inverse associations of TC - AF and LDL-C - AF were observed; the higher levels of TC and LDL-C were associated with the lower risk of AF. The hazard ratios (HR) and 95% confidence intervals (CI) were 0.797 (0.786 - 0.809) for the highest quartile of TC (Q4, TC ≥218) and 0.832 (0.82 - 0.843) for the highest quartile of LDL-C (Q4, LDL-C ≥135) when adjusted by age, sex, lifestyle behaviors, comorbidities, and low-income status. Statin users exhibited higher AF incidence rate than non-statin users, but the association in statin users generally tracked that seen among non-statin users demonstrating similar HR in Q4 of TC [0.812 (0.790 - 0.835) for statin users and 0.812 (0.798 - 0.826) for non-statin users] and LDL-C [0.842 (0.819 - 0.865) for statin users and 0.849 (0.835 - 0.863) for non-statin users].

**Conclusion:** The paradoxical relationship between lipid levels (TC and LDL-C) and incident AF remained consistent both in statin users and non-users. Further research is required to investigate an underlying mechanism in the cholesterol paradox of AF not disturbed by the pleiotropic effect of statin.

**POSTER PO-628:**
**Featured Posters: Heart Failure at Pod 15**
**Friday, April 29, 2022**
**12:30 PM - 2:30 PM**

**PO-628-01**

**CARDIAC RESYNCHRONISATION THERAPY ACUTELY ALTERS METABOLIC SUBSTRATE UPTAKE, CORRELATING WITH IMPROVEMENTS IN CARDIAC SYSTOLIC FUNCTION**

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**Background:** The failing heart is thought to be metabolically inflexible, and oxygen limited, shifting from free fatty acid (FFA) towards glucose oxidation. CRT acutely improves cardiac haemodynamics in patients with severe heart failure and a LBBB, however whether CRT alters metabolic substrate usage is unknown.

**Objective:** To acutely assess cardiac work, efficiency, and metabolic substrate uptake in response to CRT.

**Methods:** Participants with non-ischaemic cardiomyopathy were started on an insulin/dextrose infusion prior to CRT implant. During implant, measurements of cardiac work (using a pressure-volume loop catheter), coronary flow (using a doppler guide wire) and paired arterio-venous blood samples (from the left main stem and coronary sinus) were obtained with and without CRT at rest and during stress, pacing at 65% of predicted drive by direct inpatient cost and 29% indirect inpatient cost. Outpatient pathways offering timely access to quality care can have a substantial impact on reducing cost of AF care and reduce dependence upon emergency department (ED) care.

**Objective:** We sought to quantify cost savings through a novel AF outpatient treatment protocol.

**Methods:** The Atrial Fibrillation Clinic at OhioHealth’s Riverside Methodist Hospital was initiated in September 2018 with a focus on identifying low risk AF patients and expediting access for evaluation and treatment. We reviewed the total number of ED presentations, hospitalizations, and visits in our AF pathway for acute AF over a 3-year period. The hospitalization length of stay, time from referral to appointment, and outcomes of those visits were established. Acute visits in our clinic were defined as a potentially saved ED evaluation.

**Results:** Over 36 months, 2,386 patients presented with atrial fibrillation to the ED resulting in 2,074 inpatient or observation stays with a mean length of stay of 4 days. Over that same period using the acute AF pathway, 1,991 patients were referred to the AF Clinic for evaluation with 169 directly from the ED and 1,822 from outpatient care sites which avoided the use of the ED altogether. We estimate $5,000 in variable cost savings per case from the reduction in use of emergency services and of potential hospitalization resulting in $9.9 million in cost savings over 3 years. The mean time to AF Clinic visit from acute referral was 1.7 business days. Same day procedures were offered to indicated patients which included 540 cardioversions, 107 TEEs, 13 atrial flutter ablations, and 60 CCTAs.

**Conclusion:** Access to timely evaluation and treatment of AF using a dedicated pathway can significantly reduce the cost of care by avoiding ED visits and potential hospitalization. Opportunities for widespread patient and clinician education on how and where to seek care for acute episodes of AF should be explored.

**PO-627-04**

**THREE YEAR COST SAVINGS OF AN ACUTE ATRIAL FIBRILLATION PATHWAY**

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**Background:** Atrial fibrillation (AF) is the most common cardiac arrhythmia and the treatment places a gross burden on the US healthcare system, estimated at $6.65 billion annually with 44%...