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**Social economic deprivation and adverse clinical outcomes after acute coronary syndrome**

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**BACKGROUND:** NHS was created in 1948 to redress the healthcare inequality through provision of universal healthcare service in the UK. However even of late, significant health inequality persists. Socioeconomic deprivation is known to result in increased overall morbidity and mortality.

**AIM:** To assess the impact of socioeconomic deprivation (as categorised by Scottish Index of Multiple Deprivation, SIMD) on the medical management and clinical outcomes of patients with ACS(NSTEMI/STEMI) who were treated with PCI

**METHODS:** A retrospective study of NSTEMI/NSTEMI patients after inpatient treatment with coronary angiogram and PCI. The parameters include basic demographics, risk factors, LV EF on echocardiogram, lipid profile and discharge medication. Individual’s socioeconomic deprivation index, as described SIMD was also recorded (1 – most deprived and 10 – least deprived), and accordingly placed into quintile (SIMD 1-2,3-4,5-6,7-8, 9-10). Follow-up for 24 months. Clinical outcome assessed was composite endpoint event of MACE.

**RESULTS:** 357 from the lowest quintile (SIMD 1-2), 319 from SIMD 3-4, 191 from SIMD 5-6, 120 from SIMD 7-8, and 99 from the highest quintile (SIMD 9-10) were included. No statistical difference exists between age or gender. No difference in past medical history (inclusive of hypertension, diabetes, dyslipidemia, family history. No difference in incidence of nicotine use.

Prescription of aspirin, P2Y12 inhibitors (clopidogrel,ticagrelor or prasugrel) as well as secondary prevention medications (such as ace inhibitor/angiotensin II receptor blocker, beta blocker, statin and GTN) were good and not statistically different between all groups.

No statistical difference exists between all groups relating to pre-discharge LV ejection fraction on echocardiogram or random cholesterol level check on admission.

24 months follow-up demonstrated composite endpoint of MACE was statistically higher among patients of lowest socioeconomic quintile (Keplan Meier plot, p < 0.001). Step-wise multiple regression analysis also confirmed multiple socioeconomic deprivation as an independent predictor for more adverse clinical outcomes (p <0.001, R2 = 14.5%).

Patients from the least deprived quintile possess survival advantage almost 14-folds as compared to those of most deprived group (Odd-ratio 13.8 (95% CI 39.4 – 48.5)).

**Summary:** After an ACS event, despite initial coronary intervention and subsequent optimal prescription of prognostically beneficial secondary prevention medications, patients from the lower socioeconomic group (as
described by SIMD) are still more likely to experience readmission for cardiovascular death, non-fatal myocardial infarction and non-fatal stroke. Socioeconomic deprivation has been shown to be an independent predictor of adverse clinical outcome for those who survived initial ACS.