IN-HOSPITAL HEMOGLOBIN A1C TESTING AND ITS RELATION TO INITIATION OF GLUCOSE LOWERING THERAPY IN HYPERGLYCEMIC PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Background: Unrecognized diabetes (DM) is common in acute MI patients (pts) with hyperglycemia. The frequency of in-hospital hemoglobin A1c (A1C) screening, and its association with antihyperglycemic therapy (AHT) initiation, have not been described in these pts.

Methods: TRIUMPH is a multicenter MI registry of 3469 pts enrolled from 2005-08, of whom 601 (17%) had admission hyperglycemia (glucose >140 mg/dL) without prior DM. Overall, 500 pts had A1C evaluated: 330 as part of clinical care, and an additional 170 pts as part of the study (results unavailable to clinicians). AHT was defined as discharge prescription of any oral or injectable antihyperglycemic agent. Pts were divided into those with vs without clinically available A1C and stratified by A1C subgroup (<7, 7-9, >9). Poisson regression models evaluated if A1C was associated with AHT.

Results: Overall, 429 of 500 pts (86%) with measured A1C had levels <7, 43 (9%) were between 7-9, and 28 (5%) were >9. AHT was started in 56 pts (9%). Clinically available A1C was associated with more frequent AHT across all A1C subgroups (Figure). After multivariable adjustment (including admission glucose), clinically available A1C was an independent predictor of AHT (rate ratio 10.6, 95% CI 2.6-43.9).

Conclusions: A1C assessment is independently associated with AHT initiation, likely due to improved recognition of incident DM among hyperglycemic MI pts without prior history of DM. A1C assessment prior to discharge should, therefore, be considered in this patient group.