

3rd International Conference on Cardiology and Cardiovascular Innovations July 21-22, 2026 | Vienna, Austria



Dr. Shirisha Saripalli

Internal Medicine Trainee, Grange University Hospital, Aneurin Bevan University Health Board, Cwmbran, Wales, United Kingdom

From Biomarker to Burden? Troponin Utilisation, Cost and Prognostic Performance in 3,106 Consecutive Patients

High-sensitivity cardiac troponin (hs-cTn) is an established diagnostic and prognostic biomarker in acute coronary syndrome (ACS). However, increasing utilisation outside traditional ACS pathways may influence its real-world prognostic performance. The study aimed to evaluate troponin utilisation across a large acute hospital population and determine whether elevated troponin concentrations retained prognostic discrimination when applied broadly across heterogeneous clinical presentations.

A retrospective cohort study was conducted at Grange University Hospital, Wales. Consecutive troponin requests performed between 1 January and 21 March 2024 were analysed. Troponin concentrations were classified according to the locally validated laboratory threshold (>54 ng/L). Diagnostic yield, departmental utilisation patterns and 365-day mortality outcomes were evaluated. Kaplan–Meier survival analysis was performed to assess prognostic discrimination.

A total of 3,106 patients underwent troponin testing. Normal troponin concentrations were observed in 2,618 patients (84%), while 488 patients (16%) demonstrated elevated values. Cardiology patients demonstrated substantially higher diagnostic yield than non-cardiology specialties, with elevated troponin concentrations identified in 64% and 10% of patients respectively. At 365 days, mortality was higher among patients with elevated troponin concentrations than among those with normal troponin values (9.0% vs 5.0%). Despite this difference, Kaplan–Meier analysis demonstrated no statistically significant separation of survival curves (log-rank $p=0.60$). Estimated direct laboratory costs exceeded £18,000 during the study period.

These findings suggest that widespread utilisation of hs-cTn across unselected hospital populations may attenuate the prognostic discrimination observed in higher-risk cardiac cohorts. Optimisation of troponin utilisation and repeat-testing pathways may improve diagnostic stewardship while maintaining patient safety.

Keywords: High-sensitivity troponin; Prognosis; Biomarkers; Kaplan–Meier; Acute coronary syndrome; Diagnostic stewardship



3rd International Conference on Cardiology and Cardiovascular Innovations July 21-22, 2026 | Vienna, Austria

Biography

I am an Internal Medicine trainee within Aneurin Bevan University Health Board, Wales, United Kingdom. My academic interests include cardiology and internal medicine along with inclination towards teaching and research. I have had a few case report publications and also have been organising teaching for my colleagues and advising on career guidance to international doctors and foundation doctors.