Background and Aims Measuring troponin levels is currently recommended by the AHA and ESO as a baseline investigation in the management of patients presenting with acute ischaemic stroke. This study aims to investigate the value of high-sensitivity troponins in the setting of an acute ischaemic stroke as a surrogate biomarker for predicting underlying cardiac disease.

Methods This is a single-centered retrospective observational study. The inclusion criteria consisted of a confirmed acute ischaemic stroke radiographically on MRI or CT during the calendar year 2020. Exclusion criteria consisted of the absence of any one of the following: troponin levels measured on acute presentation, Echocardiogram, or extended rhythm monitoring. The primary outcome is to investigate potential predictors of high Troponin levels using a regression model. The secondary outcomes include investigating the length of stay (LOS) as a potential predictor of diagnosing atrial fibrillation/flutter (AF).

Results There was a total of 222 confirmed ischaemic strokes in our center. 127 patients met the eligibility criteria. 10% in left ventricular ejection fraction (LVEF). The most common missing investigation leading to exclusion was an echo (50 patients). 5 patients died within 24 hours of presentation. 21.5% of patients had a raised Troponin at the time of acute presentation. A logistic regression model shows that increasing age (p-value 0.014) and a diagnosis of AF (p-value 0.018) are significant predictors of a raised troponin. In patients with a normal troponin, there was a stronger likelihood to be diagnosed with AF if they had a raised troponin level. Increased LOS did not lead to higher rates of diagnosis of AF in patients with a raised troponin level.

Conclusion A raised Troponin in the setting of an acute ischaemic stroke could potentially be a biomarker for AF. This has important diagnostic outcomes and changes management in the sub-acute setting. Other surrogate markers seemed to play little role in prediction with the data we have observed in our cohort of patients with a raised troponin. Increased LOS did not lead to higher rates of diagnosis of AF in patients with a raised troponin level.