Abstract 50 Table 2 Troponin status and mortality

	Alive, n	Dead, n
Troponin positive	58	66
Troponin negative	220	58

showed that survival of COVID-19 patients was significantly higher in those with a negative troponin ($p = 3.23 \times 10^{-10}$) compared to those with a positive troponin. A Mann Whitney U test showed that initial troponin was significantly higher in those who died ($p = 2.24 \times 10^{-12}$) compared to those who were alive. Mean initial troponin was 89.8 (95% CI 43.1 – 136.5). In the multivariate logistical regression, lung disease, age, troponin positivity and CPAP were all significantly associated with death, with an AUC of 0.8872, sensitivity of 0.9004 and specificity of 0.6292 for the model. Within this model, troponin positivity was independently associated with short term mortality (OR 3.23, 95% CI 1.53-7.16, $p=0.00278$).

Conclusions We demonstrated an independent association between troponin positivity and increased short-term mortality in COVID-19 in a London district general hospital. The mechanisms implicated in myocardial injury in COVID-19 are not fully understood but are likely multi-factorial.

Conflict of Interest Nil

51 HIGHLY SENSITIVE TROPONIN ASSAY AS A SINGLE SERUM TEST IN PATIENTS PRESENTING TO A RAPID ACCESS CHEST PAIN CLINIC IN NON-TEACHING HOSPITAL IN THE UK

Indra Ramasamy. Worcester Royal Hospital, Worcester, UK

10.1136/heartjnl-2021-BCS.51

Background In the UK, rapid access chest pain clinics (RACPC) ensure that patients classified as stable angina in the community can be assessed by a specialist within the hospital system. We report, for the first time, the use of a 'highly sensitive' troponin assay in the assessment and diagnosis of patients with suspected stable angina, presenting to a RACPC in a non-teaching hospital,

Methods One hundred and seventy two patients admitted to the RACPC were assessed and followed up according to local hospital protocol. Serum cardiac troponin was measured by the 'highly sensitive' cardiac troponin I assay (uscTnI) which had a detection limit of 0.12 ng/L, upper reference limit of 8.15 ng/L and detected uscTnI in 96.8% of the population. Clinical assessment of patients was by specialist staff blinded to uscTnI results

Results The mean age of patients was 62.1 years (range 23-88 years) of which 51.1% were women. The proportion of patients, with recorded cardiovascular risk factors were: hypertension (51%), tobacco users (44%), dyslipidemia (48%), diabetes (27%), family history of coronary artery disease (CAD) (68%); increased BMI (29%). Calculated QRISK3 ranged from 1-88%, mean 16%. Measured cardiac TnI ranged from 0.71-17 ng/L (non-cardiac chest pain); 0.97-9.7 ng/L (Exercise tolerance test(ETT) without ischemic changes); 1.9-2.6 ng/L(24 h ECG); 0.46-8.6 ng/L(echocardiogram(echo) without abnormalities); 2.46-17.0 ng/L (echo with mild abnormalities); 1.8-9.2

ng/L (diagnosed as angina and treated with medication); 1-70 ng/L (further review by cardiologist); 1.5-33.2 ng/L(previous cardiac disease); 0.98-3.9 ng/L (Stress echo (normal); 0.58-9.3 ng/L (computerized tomography coronary angiogram(CCTA), CAD negative); 1.1-8.7 ng/L (CCTA, CAD positive); 1.1-2.2 ng/L (angiogram CAD negative); 0.94-49 ng/L (angiogram CAD positive). Receiver operator characteristic curves(ROC) were used to examine diagnostic threshold at different uscTnI values, measured in patients who underwent functional testing (ETT, Echo), CCTA and coronary angiography. At low values of uscTnI >0.5 ng/L sensitivity was 100%, suggesting that uscTnI values <0.5 ng/L can be used to exclude CAD. At high values >11.6 ng/L specificity was 100%, suggesting patients with values >11.6 ng/L may require closer evaluation. In patients assigned to coronary angiogram higher concentrations of uscTnI was associated with more severe CAD. In 3/22 patients undergoing CCTA a QRISK3 score $<10\%$ and uscTnI <1 ng/L CCTA was normal, suggesting uscTnI can decrease patient numbers selected for CCTA. There was overlap in uscTnI values between patients with and without CAD in the range 0.5-11.6 ng/L, in this range uscTnI, on its own, may not have the same diagnostic potential.

Conclusions The study suggests that uscTnI is of diagnostic value in patients risk-assessed and allocated to CCTA or coronary angiography. ROC curves suggest that diagnostic cut-off values will depend on patient population and their presenting co-morbidity.

Conflict of Interest none

52 ROUTINE VERSUS CLINICALLY INDICATED USE OF CHEST X-RAYS IN PATIENTS PRESENTING WITH ST-ELEVATION MYOCARDIAL INFARCTION

¹Noor Leelo, ²Nicky Mortimer, ³JN Townsend, ²SN Doshi, ³M Adnan Nadir. ¹University of Birmingham Medical School, Birmingham, UK; ²Dept of Cardiology, Queen Elizabeth Hospital, Birmingham, UK; ³Queen Elizabeth Hospital Birmingham

10.1136/heartjnl-2021-BCS.52

Background National Institute of Clinical Excellence (NICE) guidelines recommend consideration of Chest X-rays (CXR) in patients presenting with chest pain to exclude non-cardiac causes of chest pains. However, patients with ST-segment elevation myocardial infarction (STEMI) have a clear diagnosis, rendering the rationale for routine CXRs in this cohort of patients unclear. However, this remains a common practice across the health service. This raises the question of whether CXRs should be conducted routinely or only when clinically indicated.

Methods We performed a retrospective study use of CXRs in consecutive patients admitted with STEMI undergoing primary percutaneous coronary intervention in a single UK tertiary cardiac center. We aimed to investigate if CXRs added clinical and diagnostic value by comparing routine vs. clinically indicated use.

Results A total of 122 patients (Mean Age 63 ± 12 , 87% Male) were admitted with STEMI during the study period and 114/122 (93.4%) patients received at least one CXR during their in-patient stay. All but 2/114 were portable thus resource-intensive. Of these, 75/114 (65.8%) were routine while 39/114 (34.2%) were clinically indicated. Although CXRs were performed in almost all the patients, only 56/114 (49.1%) of patients had the findings of CXRs documented in the clinical records. The diagnostic efficacy for CXR abnormalities was