Objective
Coronary artery calcification (CAC) on thoracic computed tomography (CT) is a known biomarker of coronary artery disease and mortality. Systemic Sclerosis (SSc) is a pro-inflammatory condition; microvascular inflammation is increasingly hypothesised to drive pulmonary hypertension (PH) in SSc. Inflammation is also a driver of CAD. We hypothesised that CAC would be prevalent and associated with mortality in SSc.

Methods
Retrospective analysis of 262 CTs in SSc patients from a prospectively maintained clinical database at a tertiary Rheumatology/PH service March 2007-March 2021 (mean age 65±12, 14% male). 86/262 (33%) had interstitial lung disease (ILD), 128/262 (49%) had PH. CTs were re-reviewed for CAC; severity was graded by experienced readers using a 4-grade CAC scale. PH was significantly associated with CAC (X^2=7.7, p=0.009). In contrast, ILD had no significant association with CAC (X^2=0.57, p=0.81).

Conclusion
CAC is common in SSc and is associated with PH. PH and CAC are predictors of mortality in SSc and both have a hypothesised pro-inflammatory driver. Further validation is required to assess the potential role for anti-inflammatory therapies.

Inflammatory immune process or by direct viral infection. Using 18F-fluorodeoxyglucose positron emission tomography/computed tomography (18F-FDG-PET/CT) and cardiac magnetic resonance (CMR) imaging we correlated the metabolic activity/injury between the reticuloendothelial system (bone marrow [BM] and spleen) and myocardial/pulmonary tissue. Methods
18F-FDG-PET/CT (n=29, fasted n=27) and CMR (n=23) were performed on hospitalised patients with acute COVID-19. 18F-FDG PET/CT standardised uptake values (SUV) were measured in the spleen, spinal BM, myocardial and pulmonary tissue. Cardiac target-to-background ratio (TBR) was calculated by indexing to blood-pool SUV. Myocarditis was assessed using the sensitive 2018 Lake Louise criteria (LLC), and viral load (by cycle threshold).

Results
13 patients had myocarditis on CMR (57%), 8 (30%) visually on 18F-FDG-PET/CT. There was no statistical difference comparing LLC positive and negative patients for BM (4.21±0.30, 4.98±0.56, P=0.23), spleen (4.40±0.40, 5.15±0.08, P=0.38) and lung (4.08±0.72, 4.16±0.91, P=0.94) SUV. Lung SUV was significantly associated with BM (r=0.61, P<0.001) and spleen (r=0.48, P<0.05) SUV. Cardiac TBR, T1 and T2 mapping showed no significant association with BM and spleen SUV (P>0.05 for all). Cycle threshold did not correlate with either cardiac TBR and T1 or T2 (P>0.05 for all).

Conclusion
Reticuloendothelial system activation strongly correlated with lung activity, suggesting pulmonary injury is part of a systemic inflammatory process. Cardiac inflammation was not associated with either spleen, BM or viral load, suggesting injury is multifactorial.

Objective
Since inception computerised tomographic coronary angiography (CTCA) has required facilitating beta blockers (BB). However, CT technology has improved rapidly as has radiographer and reporter expertise. Utilising this, we instituted a radiographer led cardiac CT service (RLCCTS), without routine BB, which we then studied for quality control (QC).

Methods
RLCCTS started October 2021 using the Revolution Apex CT System (GE Healthcare UK), with 20-minute slots. QC study was registered with the clinical audit team, University Hospitals Plymouth, CA 2020–21-118. Uniform reporting was agreed including indication, BB administration, demographics, dose length product (DLP) and the coronary artery disease – reporting and data system (CAD-RADS) score. Uncertain CAD-RADS meant a non-diagnostic scan (NDS). Six months data was collected; stable chest pain patients (SCPP), who have national CTCA QC indicators, were analysed using descriptive statistics.

Results
1475 patients, 447 were not SCPP - known CAD (157); valves (286); removed (4, data incomplete) leaving 1028 SCPP CTCA for analysis. Demographics - mean age 63 years, BMI 29, 50.4% female. BB therapy - 4 patients (2...