Positive (or outward) vessel remodelling has been postulated to explain the finding of atherosclerosis that does not encroach on the arterial lumen. Positive remodelling index and presence of low attenuation noncalcified plaque (<30 Hounsfield units) are characteristic vessel changes in unstable coronary plaques.

**Objectives:** To evaluate the frequency of noncalcified plaque in an urban Chinese cohort with systemic lupus erythematosus, and to determine risk factors for noncalcified plaque.

**Methods:** A total of 66 patients who meet the American College of Rheumatology classification criteria for SLE were included in the study. Of these, 30 patients had two studies. All patients underwent coronary CT angiography. Coronary plaque area was measured by manual tracing for the difference between the area within the external elastic membrane and the area of the vessel lumen at the site of maximal luminal narrowing as observed on a cross-sectional coronary CT angiography image. Each noncalcified plaque detected within the vessel wall was evaluated with the minimum CT density and vascular remodelling index (RI). Total low density plaque volume per patient and low density/high density noncalcified plaque ratio were then compared by patient characteristics which included age, sex, ethnicity, BMI, smoking, SLEDAI, PGA, anti-dsDNA, low complement, current prednisone, current hydroxychloroquine, current NSAID use, history of cardiovascular event, hypertension, lupus coagulant, antidiolipin, hypercholesterolemia, and methotrexate use.

**Results:** All patients had at least one plaque with a positive remodelling index (>10%), and 83.1% (n=27) of total identified plaques had a positive remodelling index. Low density noncalcified plaque volume was associated with age (p<0.01) and body mass index (p<0.01). African Americans had significantly more (p<0.05) low density noncalcified plaque compared to patients of other ethnicities. The low density/high density noncalcified plaque ratio did not correlate with any patient characteristic and was on average 46% (SD=10). There were only cardiovascular events in the studied group and there were no differences in remodelling index or low density noncalcified plaque observed in this group, but the number of events was small.

**Conclusions:** Positive remodelling index and low attenuation noncalcified plaques are characteristic vessel changes seen in unstable coronary plaques. They are common in patients with lupus and are significantly more likely to be seen among African American patients, patients with a BMI>30, and the elderly (age over 60).

**Disclosure of Interest:** None declared

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