

Dynamic CT-MPI + coronary CT angiography protocol

Calcium score was firstly performed to calculate the calcification burden of each pericardial vessels. The scan range of dynamic CT-MPI was determined based on the calcium score images to cover the whole left ventricle as well as all coronary arteries. Adenosine triphosphate was intra-venously infused over 3 min at 160 $\mu\text{g}/\text{kg}/\text{min}$ before triggering the MPI acquisition. A fixed volume of contrast media (50 mL, Ultravist, 370 mg iodine/mL, Bayer, Berlin, Germany) was given in a bolus injection at the rate of 6 mL/s in all participants, followed by a 40 mL saline flush by using dual-barrel power injector (Tyco, Cincinnati, OH, USA). Dynamic CT-MPI acquisition was started 4 s after the begin of contrast injection. The end-systolic phase (triggered at 250 ms after the R wave in all participants) was set for the dynamic acquisition by using a shuttle mode technique with a coverage of 10.5 cm for complete imaging of the whole left ventricle. Scans were launched every second or third heart cycle according to participants' heart rate, resulting in a series of 10 to 15 phases acquired over a fixed period of 32 s. The acquisition parameters of dynamic CT-MPI is listed as follow: collimation = 96×0.6 mm,

CARE kV was used and the reference tube voltage =80 kVp, rotation time =250 ms, CARE dose 4D was used and the effective current =300 mAs, reconstructed slice thickness =3 mm and reconstructed slice interval =2 mm.

Nitroglycerin was given sublingually in all participants 5 minutes after dynamic CT-MPI, prior to the acquisition of coronary CT angiography. Coronary CT angiography was performed by using a bolus tracking technique, with regions of interest placed in the ascending aorta. A bolus of contrast media was injected into antecubital vein at the rate of 4–5 mL/s, followed by a 40 mL saline flush by using dual-barrel power injector. The amount of the contrast media was determined according to the patient's body weight and scan time. Prospective ECG-triggered sequential acquisition was performed in all participants for coronary CT angiography, with the center of the triggering window set at diastole or systole depending on the heart rate, with collimation = 96×0.6 mm, reconstructed slice thickness =0.75 mm, reconstructed slice interval =0.5 mm, rotation time =250 ms and application of automated tube voltage and current modulation (CAREKv, CARE Dose 4D, Siemens Healthineers, Germany). The reference tube current was set as 320 mAs and the reference tube voltage was set as 100 kVp.