Abstract: **P345**

**Relationship between coronary artery calcium score and computed tomography myocardial perfusion.**

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**Topic(s):**
CT Myocardial Perfusion

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Introduction: Previous studies have shown that coronary artery calcium score (CACS) is associated with myocardial ischemia as assessed by single-photon emission computed tomography myocardial perfusion imaging. However, this relation has not been extensively investigated for computed tomography (CT) myocardial perfusion. Moreover, it has been suggested that CT myocardial perfusion should only be performed in patients with a CACS > 400.

Methods: We prospectively included symptomatic patients with low-intermediate pre-test probability of coronary artery disease (CAD) who underwent both CACS and CT adenosine myocardial perfusion. CACS was scored using the Agatston method. Perfusion defects were visually assessed and myocardial ischemia was defined by summed difference score (SDS) = 1.

Results: 155 patients (age 61±9.7 years; 54% male) were included. 56 patients (36%) had myocardial ischemia on CT myocardial perfusion. The mean (range) summed stress score (SSS), summed rest score (SRS) and summed difference score (SDS), were respectively, 2.25 (0-26), 0.35(0-26) and 1.89 (0-16). The median (IQR) CACS was 180 (23-474). A positive correlation was observed between CACS and SDS (P<0.0001). Patients were divided in three groups; CACS=0, CACS=1-400 and CACS >400. In patients with CACS =0, CACS 1-400, CACS >400, 26% (6), 29% (24) and 54% (26) had a SDS >1. The mean (range) SDS was 1.04 (0-6), 1.31 (0-15) and 3.31 (0-16) in respectively, CACS =0, CACS 1-400, CACS >400.

Conclusions: CACS was positively correlated with myocardial ischemia on CT myocardial perfusion. However, a CACS of 0 did not exclude myocardial ischemia as assessed by CT myocardial perfusion.
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Graph: Patients (%) vs. Coronary Calcium Score

- No ischemia
- Ischemia

Coronary Calcium Score

Patients (%)