Implementation study of CT calcium score in patients with atypical angina pectoris and non-specific thoracic complaints in primary care: rationale, objectives, and design of the CONCRETE study

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Background: Identifying and excluding coronary artery diseases (CAD) in patients with atypical angina pectoris (AP) and non-specific thoracic complaints is a challenge for general practitioners (GPs). It is unclear what the best diagnostic and prognostic strategy is for these patients in primary care. Computed Tomography coronary calcium scoring (CT CCS) has a high sensitivity for early diagnosis and exclusion of CAD. However, CT CCS has not been tested in a primary care setting. In the CONCRETE study, the impact of direct access of GPs to CT CCS on management and diagnosis will be investigated. CONCRETE is the abbreviation for "COroNary Calcium scoring as fiRst-linE Test to dEtect and exclude coronary artery disease in GPs patients with stable chest pain." Currently, we present the rationale, objectives and design of this study.

Purpose: The purpose of CONCRETE is to study the implementation of CT CCS in primary care, and determine the effects on GP office level. The primary objective is to determine the increase in detection/treatment rate of CAD in GP offices with CT CCS, compared to GP offices with standard of care.

Methods: CONCRETE is an implementation study with a cluster randomized design, in which direct access to CT CCS in a group of 40 GP offices is compared to the standard of care in a control group of 40 GP offices. In both arms, inclusion of 800 patients with atypical angina pectoris and non-specific thoracic complaints is intended.

Results: Recruitment of GP offices and participants started in January 2019. First results will be presented.

Conclusion: CONCRETE will determine whether access to CT CCS will lead to earlier and more effective detection or exclusion of CAD in GP patients with atypical angina pectoris and non-specific thoracic complaints, in comparison to the standard of care. Implementation of the study findings could initiate a change in the (Dutch) GP healthcare policy, for these patients in primary care.