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Invasive coronary angiography after computed tomography coronary angiography: is it influenced by Cardiologist subspecialty?

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Introduction: 2016 update of NICE guidelines, from the United Kingdom (UK), on stable chest pain, suggests that patients with new onset chest pain with atypical or typical anginal features, as well as those with non-cardiac chest pain and an abnormal resting ECG, should be offered computed tomography coronary angiography (CTCA). Although CTCA has a high sensitivity (95-99%) and specificity (64-83%) to diagnose coronary artery disease (CAD), previous studies suggest that a non-negligible portion of patients are being submitted to invasive coronary angiography (ICA) after CTCA, either to confirm the presence of obstructive CAD or to confirm the absence of CAD and further reassure the patients that his/her chest pain is not cardiac.

Purpose: Authors aim to investigate if the scepticism on CTCA results and the request for ICA to confirm CTCA findings are influenced by the Consultant Cardiologist subspecialty (Interventional vs Non-interventional).

Methods: Single centre prospective audit study, including 400 consecutive patients with stable chest pain who were referred to CTCA. Demographic, CTCA and downstream testing data were collected. Statistical analysis was performed using STATA v14. p<0.05 was considered statistically significant.

Results: 400 patients were included, with mean age of 61 ± 12.2 years, 202 (52.6%) men, with a mean BMI of 28.9 ± 6.4. 387 (96.8%) CTCAs were diagnostic. Coronary artery disease (CAD) was diagnosed in 229 (57.3%) patients, and the mean CAD-RADS was 1.38 ± 1.6. 67 (16.8%) patients had ICA after the CTCA. Patients whose CTCA was requested by an Interventional Cardiologist, rather than a Non-interventional Cardiologist, had a higher probability of being submitted to ICA after the CTCA (23.4% vs. 13.3%, p=0.049). When adjusting for CAD-RADS, although the fact that the CTCA was requested by an Interventional Cardiologist was associated with a two-fold increase in the chance of having ICA, that difference became non-statistically significant (odds ratio 2.1, 95% CI 0.8-5.7, p=0.153).

Conclusion: In our study, a trend (not statistically significant) was found with respect to increased likelihood of ICA requested as a downstream test by Interventional Cardiologists.