Imaging

CT coronary angiography in Selected Group of patients with Chest pain of new onset predicts and prevents hospital admissions & Outpatient Clinic referrals

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Funding Acknowledgements: Type of funding sources: None.

Introduction: NICE (National Institute of Clinical Excellence) guidelines currently recommend the use of CT coronary Angiogram (CTCA) as the initial test to investigate coronary artery disease in patients with new onset of chest pain.

Our aim was to evaluate the relationship between the CT coronary angiogram findings on index presentation, and hospital admissions and re-referral to outpatient clinics in following 2 years.

Method: Data was accrued via a retrospective analysis of electronic medical records at Sunderland Royal Hospital pertaining to patients who presented to the Rapid Access Chest Pain Clinic (RACPC) and underwent CTCA in 2017.Data included:

Presentation – Typical & atypical angina

Risk factors profile

Investigations including ECG, ECHO, CTCA, perfusion scan and invasive coronary angiography

Severity of coronary artery lesion on CTCA

Hospital admissions or re-referral to outpatient clinics in 2 year follow up

Results: In the 235 patients studied, mean age was 56 years with 130 (55.5%) men and 195 (82.9%) presented with atypical angina as shown in table.

Out of 195 patients with atypical chest pain only 17 (8.7%) were diabetics and most of them 178 (91%) had Coronary Calcium score of 1-400. Most patients (184) underwent CT coronary angiogram with 39 (21%) having normal coronary arteries, 126 (68%) with mild to moderate coronary artery disease and 19 (11%) with severe coronary artery disease. Subsequent assessments with invasive coronary angiography, myocardial perfusion scan and Treadmill exercise did not reveal significant disease warranting coronary revascularization.

Patients with normal or mild -moderate CAD on CTCA 24 (15%) represented with acute chest pain (only one needed PCI) and 6 (3.5%) were referred to outpatient clinics over 2 years follow up. In patients with severe CAD on CTCA, 6 (32%) presented with acute chest pain and 4 (21%) needed PCI. Almost all patients were treated with statins and antiplatelets following CTCA results.

Conclusion: CT coronary angiography is sensitive and specific in assessment of hemodynamically significant coronary artery disease in non-diabetic patients presenting with angina in outpatient setting.

CTCA in patients with normal or mild to moderate CAD also gives confidence to the clinician and prevents further un-necessary investigation and hospital admissions/outpatient referrals.