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Abstract 14: Diagnostic Utility of CT Coronary Angiography for the Detection of Coronary Heart Disease in Patients with Dyspnoea

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Introduction: Current UK guidelines recommend CT coronary angiography (CTCA) first line for the detection of coronary heart disease (CHD) in patients who present with typical or atypical stable angina. However, CTCA is not infrequently requested to investigate for CHD as a cause of breathless without chest discomfort or 'angina equivalent'. A PubMed search using the terms 'coronary angiography' and 'dyspn(o)ea' revealed limited information regarding CTCA in this population. The aim of this study was to assess the prevalence of obstructive CHD in patients with dyspnoea but no chest discomfort undergoing CTCA.

Methods: All CTCA reports between January 1st - December 31st 2017 were searched using the terms 'dyspnoea', 'dyspnea', 'breathlessness' and 'shortness'. Patients with any mention of chest pain were excluded. Electronic records were retrospectively reviewed to record the prevalence of obstructive CHD $\geq 50\%$, smoking history, CXR (preceding 3 months), coronary interventions (and symptomatic improvement) and final diagnosis.

Results: 303 patients were identified. 207 were excluded due to the presence of chest pain associated with dyspnoea. Therefore, 116 patients underwent CTCA for the investigation of dyspnoea without chest discomfort, representing 8% of all CTCA requests over the year. 57 patients (49%) were female, mean age was 65 and 54 patients (54%) had a smoking history. Only 32 patients (28%) underwent a CXR in the preceding 3 months, of which 9 (28%) had an abnormality. 53 patients (43%) had normal coronary arteries, 29 (25%) minor CHD and 19 (16%) obstructive CHD with ≥ 1 stenosis $\geq 50\%$. 15 (13%) had non-diagnostic scans, falling to 11 (9%) when excluding patients with grafts ($n=3$) and stents ($n=1$). Of the 19 patients with potentially flow limiting disease, 7 had a negative stress test, 1 had an angiogram showing only minor disease, 1 had an angiogram showing moderate disease but

was managed conservatively and 7 underwent PCI. Of patients undergoing PCI, 86% had a subsequent improvement in their symptoms. Final diagnosis in all patients referred for CTCA is summarised in Fig. 1.

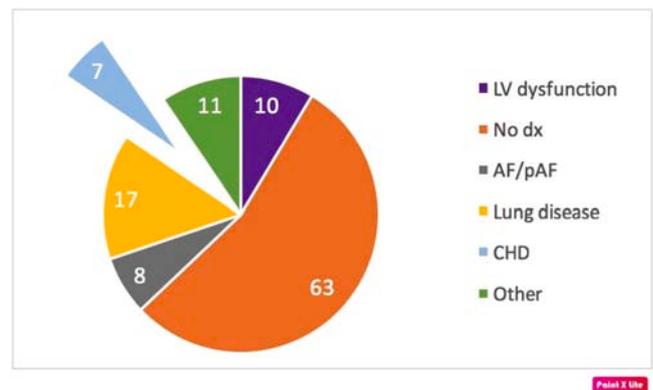


Fig. 1. Final diagnoses in patients undergoing CTCA to investigate dyspnoea.

Conclusions: The diagnostic yield of CTCA for identifying obstructive CHD in patients with dyspnoea without chest discomfort is low at 6%. Where appropriate, other investigations such as a CXR should be considered first and may improve the clinical utility of CTCA in this patient group. For the small number of patients with dyspnoea and obstructive CHD, coronary intervention is associated with a high likelihood of symptomatic benefit.

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