P02 EFFICACY OF INTRAVENOUS METOPROLOL FOR HEART RATE CONTROL IN PATIENTS UNDERGOING CT CORONARY ANGIOGRAPHY

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Introduction Computer tomography coronary angiography (CTCA) can be performed with improved image quality and at lower radiation dose when heart rate is lowered to less than 60 beats per minute (bpm). In our centre intravenous Metoprolol is administered on the CT table targeting a heart rate below 60 bpm. The aim of this audit was to assess the efficacy of intravenous beta-blockade to achieve optimal heart rates in patients undergoing CTCA.

Methods We carried out a retrospective case note review of all patients undergoing CTCA between 1 – 30 November 2018. Scanning was performed using a 320-detector row scanner with prospective gating (Toshiba Aquilon One). Data collected included attending radiologist/cardiologist, dose of Metoprolol, heart rate at time of image acquisition and baseline patient characteristics.

Results Case notes of 131 consecutive patients referred for CTCA were reviewed. The mean heart rate achieved was 61.7 bpm (range 30–130 bpm). The average administered dose of metoprolol was 15.5 mg (range 0–60 mg). 51% of patients achieved a heart rate less than 60 bpm at the time of scanning. For patients achieving target heart rates below 60 bpm the average dose of metoprolol was 9.3 mg, and 22.4 mg for those with heart rates greater than 60 bpm at the time of image acquisition.

Conclusion Routine administration of intravenous beta-blocker peri-procedure fails to achieve optimal heart rate control in approximately half of all patients undergoing CTCA. Alternative protocols including pre-treatment with a short course of oral beta-blockers should be considered.

P03 REPORTING OF CORONARY ARTERY CALCIFICATION ON NON-GATED PRE-SURGICAL CT THORAX

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Introduction Coronary artery calcification (CAC) is a known risk factor for myocardial infarction (MI). CAC score is demonstrated to have prognostic value in predicting the incidence of cardiovascular events. CAC can be visually estimated on non-gated CTs, even when not formally quantified. It is a strong prediction tool for risk stratification in the asymptomatic population. We noticed that CAC is not routinely reported as part of routine CT thorax. The aim of our study is to evaluate the percentage of CAC reported by radiologists, and if there is a link to peri-operative myocardial infarction (within 5 days of surgery).

Methods The study is retrospective and 100 ungated thoracic CTs acquired for lung cancer surgical planning are included. An ordinal score of 1 to 10 was visually assigned. The medical records of these patients were reviewed.

Results 61 out of 100 patients had CAC visible on their CTs. However, this was only mentioned in 1 report (1%). There was no peri-operative MI. 5 patients (5%) had MI in the past, and all of them had CAC.

Conclusion CAC is not routinely reported by our radiologists on non-gated thoracic CTs. Although there is no link to increased peri-operative myocardial infarction in our cohort, this is an opportunity for clinicians to risk stratify their patients. More awareness needs to be raised in our local institution to improve current practice.

P04 FFRCT: BENEFITS AND LIMITATIONS. A TERTIARY CENTRE EXPERIENCE AT GLENFIELD HOSPITAL/ UNIVERSITY OF HOSPITALS LEICESTER

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Introduction FFRCT is a novel software for analysis of CT coronary angiographic images and aims to identify flow limiting disease non-invasively. FFRCT was introduced in our regular practice at 'UHL' in April 2018. This audit sought to assess the utility of FFRCT in evaluating the functional significance of all potentially flow limiting stenosis as seen on conventional CT.

Methods We reviewed all cases which were sent for FFRCT analyses from April 2018 to December 2019. Patients with FFRCT values of >0.80 and <0.80 were identified. In addition, the downstream investigation and management was recorded from the hospital electronic system.

Results A total of 222 cases were sent for FFRCT analysis to Heartflow. FFRCT was <0.80 in 112 patients and > 0.80 in 100 patients in at least one coronary vessel. Invasive angiogram was performed in 59 of these patients, of which 50 had CTFFR< 0.80 and 9 had CTFFR >0.80. Of these, 35 patients had stents or were referred to surgery. Five of the patients that had revascularisation, had a CT FFR of >0.8.

Conclusion We found that FFRCT has a valuable role in assessing the significance of moderate to severe stenosis on CTCA. Interpretation of FFRCT results needs to be made with caution and in conjunction with the CT angiographic images, as the quality of CT images may impact the accuracy of CT FFR values.

P05 ACUTE CARDIAC CT PATHWAY FOR TROPONIN NEGATIVE CHEST PAIN

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Introduction The acute cardiac CT pathway was set up at University hospitals of Leicester in 2017 to provide early outpatient Cardiac CT slots for patients presenting to hospital with Troponin negative chest pain to exclude coronary artery disease (CAD). A slot was created in each Cardiac CT list. Prior to this, patients would remain inpatients for up to 48 hours waiting for a scan or would have an outpatient scan after 10–20 weeks in 50% of cases.

Methods Data was collected retrospectively from the radiology information system for the time period between September