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Case Report

Robust Computed Tomography Coronary Angiography (CTCA) Multi-Disciplinary Team (MDT) Meetings: Purpose, Process and Set-up

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Abstract

Multi-disciplinary team (MDT) meetings form the heart of patient centred care. Defined standards also exist for Heart Team or Cardiac MDT meetings. Despite progress in the field of cardiovascular imaging especially Computed Tomography Coronary Angiography (CTCA), there does not appear to be either mandate or a quality standard for a CTCA MDT. In this article, we describe the purpose, process and set-up of a robust CTCA MDT and describe our experience of the same.

Kew Words: computed tomography coronary angiography; multi-disciplinary team; percutaneous coronary intervention

Introduction

Multi-disciplinary team (MDT) meetings form the heart of patient centred care especially for those who have complex comorbidities. Published data on quality standards for MDTs is quite extensive [1-3]. Defined standards also exist for Heart Team or Cardiac MDT meetings [1, 2]. An MDT mandates a clear purpose, goal and a patient centric approach with management decided by diverse expertise and implemented by effective communication.

In 2016, the updated National Institute for Clinical Excellence (NICE) guidance advised that Computed Tomography Coronary Angiography (CTCA) as the first line investigation for patients with chest pain of suspected Cardiac origin [3]. As a consequence there was a veritable explosion in requests for CTCA for cardiac sounding chest pain and the demand continues to grow.

CTCA is also emerging as an imaging test to not only diagnose coronary artery disease (CAD) but also help in procedure planning when percutaneous coronary intervention (PCI) is considered.

Despite these developments there does not appear to be either mandate or a quality standard for a Computed Tomography Coronary Angiography (CTCA) MDT.

We perform over 2000 diagnostic CTCA scans annually, serving a population of over half a million residents in our catchment area. Our hospital is situated in the centre of the second biggest city in the United Kingdom (UK) with a multi-ethnic, socio-economically deprived population. Our CTCA reporting service involves two pathways: a novel "One Stop Cardio Radiology Integrated Service (OSCRIS)" and a Standard CT Patient Pathway (SCTPP) service [4]. The OSCRIS pathway, started in 2012, is performed jointly by a level 2 Radiologist and a level 2 Cardiologist who report the CTCA and initiate a management plan on the same day. The SCTPP pathway is performed by a solo level 3 Radiologist.

We describe how to establish a robust CTCA MDT and detail our experience of the MDT.

CTCA MDT caveats

Although the CTCA service was established in 2012, the bimonthly CTCA MDT was only formally started in August 2020.

Purpose:

The purpose of the CTCA MDT is to ensure quality of reporting and maintain standards including quality control (QC), as part of good governance. For QC, the CTCA images are discussed in a blinded, "no-blame" manner with agreement or disagreement of the findings ± corroboration with invasive angiography if this has been performed. Other categories of cases discussed include: interesting findings, clinical management of cases and corroboration of findings.

Process:

The CTCA MDT was set up as a virtual teams meeting and the quorate includes a chair (the CTCA lead- currently a Cardiologist), at least one Radiologist and one other Cardiologist. The chair is a senior clinician with at least level 2 CTCA accreditation and a minimum of 2 years' experience at reporting CTCA. It is the chair's responsibility to ensure that the MDT is quorate. The CTCA chair ensures the smooth and effective functioning of the MDT, ensures the CTCA images are available on the day of discussion and documents/communicates the consensus decision. The referring consultant is required to be present for discussion of their case to take place.

Set-up:

Cardiologists and Radiologists upload the required cases for discussion onto a secure, access-controlled folder on the Trust's shared drive. The minimum dataset for the referral includes the reason the CTCA was requested, the patient's comorbidities and the question to be answered.

Imaging software and requirements: Trust computers are required to be available for the MDT with the necessary imaging software (Syngovia@ software at our centre) installed for the MDT for ease of review. Cases are discussed in a step wise manner along with review of the CTCA images and any other imaging modality that might help with the discussion including invasive angiograms, intracoronary imaging, echocardiograms and cardiac magnetic resonance (CMR) imaging. Attendance is marked on the spread sheet and the outcome of the MDT is documented on the spread sheet. Participation is open to the entire Cardiology team.

Any actionable steps are taken by the referrer and communicated to the patient and the team managing the patient. The referring consultant is usually the operator who performed the CTCA.

Retrospective evaluation of our CTCA MDT:

We performed retrospective evaluation of the CTCA MDT cases and outcomes between August 2020 and May 2025,

The CTCA cases discussed were classified as follows (table 1):

1) Quality Control (QC)

2) Interesting CTCA

3) Clinical management

4) Corroboration of findings on CTCA ± management

Over a period of 53 working months, 298 CTCAs were discussed (~3 cases per MDT). Approximately 10% of the cases were for QC (others: Interesting CTCA: 6.4%; Clinical management: 55.0%; Corroboration of findings ± management: 29.5%). The number of QC cases discussed increased over the years. Clinical management queries formed over 50% of the cases discussed. Of those who were discussed for clinical management, nearly three fourths had a change in management -for example (figure2): those with chronic total occlusion (CTO) and the necessity to intervene, the need for non-invasive physiological assessment of a coronary lesion with FFR-CT, exotic cases which required urgent surgical discussion such as sinus of valsalva aneurysm causing coronary compression or aggravation of Kawasaki disease requiring urgent immunotherapy.

	Quality Control	Interesting CCT	Clinical management	Corroboration of findings ± management
Number of CCTs discussed	27 (9.1%)	19 (6.4%)	164 (55.0%)	88 (29.5%)
Total number of cases	**298 CCTs discussed over 53 working months**			

Table 1: Reasons for CCT discussion at MDT

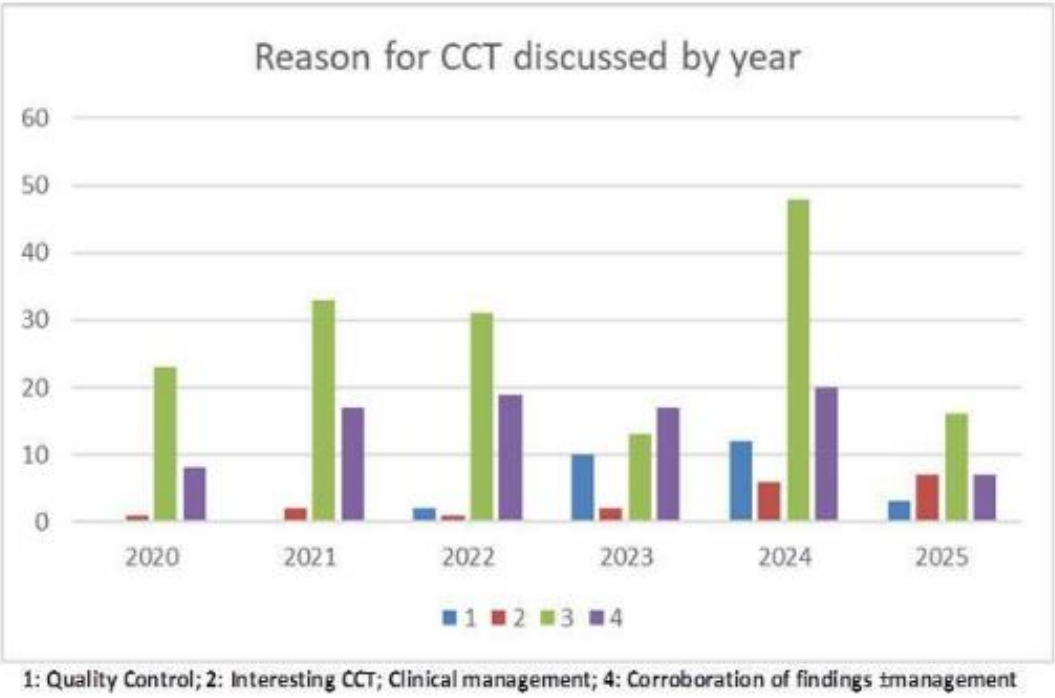

Figure 1: CTCA cases discussed over the individual years

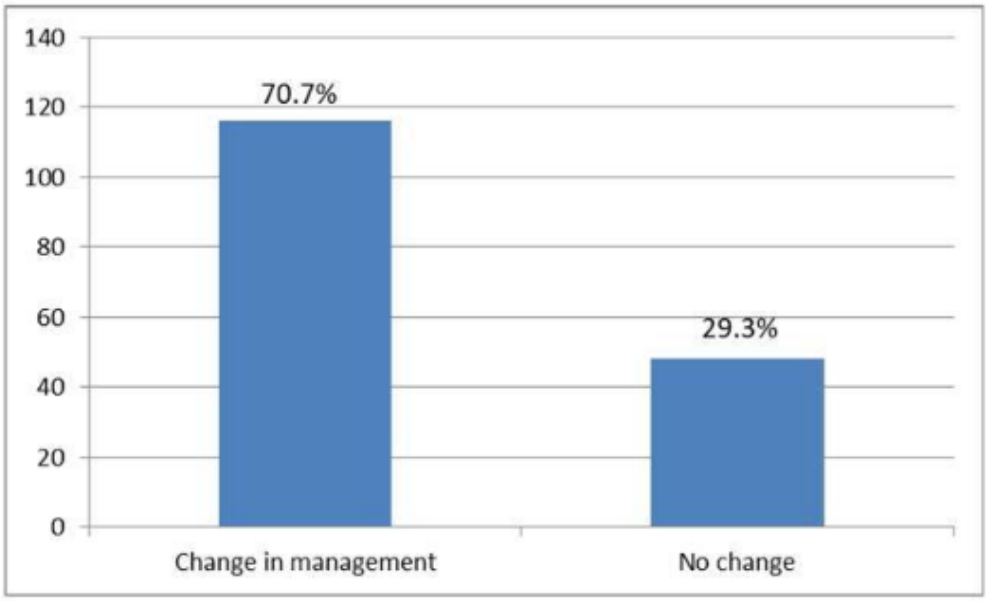

Figure 2: Change in clinical management due to CTCA MDT

Discussion:

Since the CTCA MDT was formally initiated, regular QC has improved the knowledge and reporting of both Cardiology and Radiology colleagues. Feedback from the wider Cardiology team indicates that CTCA reports are more coherent and accurate. Colleagues attending the CTCA MDT have expressed how the MDT has contributed to their improved understanding of the coronary and cardiac anatomy including differentiation of artefact from plaque or normal anatomy. Subsequent MDTs have resulted in reduced time to clinical decision making, enhanced patient care, learning and education. On many occasions, clinical perspective and opinions were added to the final CTCA report as an addendum, which ensured accurate evidence-based patient management. Regular discussion of a variety of cases has improved the confidence of the CTCA operators to present CTCA findings at other joint Heart MDT Discussions. Since initiation, the CTCA MDT has evolved to also be utilised as a forum for invited talks from national experts, discussion of guidelines/ CTCA-relevant publications and discussion of research ideas and concepts.

Conclusion:

The authors recommend that all centres that perform CTCA have a dedicated and regular CTCA MDT with the caveats as discussed above for improvement of patient care.

References

1. Archbold A, Akowuah E, Banning AP, Baumbach A, Braidley P, Cooper G, et al. (2022).Getting the best from the Heart Team: guidance for cardiac multidisciplinary meetings. Heart.;108(11):e2.
2. Luckraz H, Norell M, Buch M, James R, Cooper G. (2025).Structure and functioning of a multidisciplinary 'Heart Team' for patients with coronary artery disease: rationale and recommendations from a joint BCS/BCIS/SCTS working group. Eur J Cardiothorac Surg.;48(4):524-529.
3. Improvement NEaN. Streamlining Multi-Disciplinary Team Meetings 2020
4. Upadhyaya Subramanya G.N SA, Dharas Muhammad, Yousif Abdel, D'sa Anthony,, Das Indrajeet CD. OSCRIS; (2019).An Efficient and Patient preferred Cardiac CT service. SCCT.

DOI:10.31579/2641-0419/525