Methods A weekly multidisciplinary meeting (MDM) for review of patients with presumed endocarditis was created. Attendees were invited from cardiology, microbiology, elderly care and acute medicine, with cardiothoracic input from the regional surgical centre. Meetings were held via Microsoft Teams to allow input between the hospital sites involved. Imaging studies could be viewed by all. Attendance was open to the cardiology directorate including junior doctors, cardiac physiologists and nurses for on-going education and multidisciplinary input.

An electronic referral form ensured documentation of patient history, Duke score, imaging and microbiology investigations and current treatment. This was updated weekly with outcomes and recommendations from the MDM and appeared on the electronic patient record.

After 3 months, a questionnaire was circulated to assess attendees' feelings about the meeting and areas for improvement.

Results Over 3 months, 16 patients were referred to the meeting for review. Eleven were treated as endocarditis; after review the remaining 5 were felt to have an alternative diagnosis. Five patients were transferred for surgery or device explant. Others were either not suitable for surgical intervention or did not require surgery. In 11 (68%) cases the MDM added to the patient management plan or changed diagnosis. Meetings had an average of 18 attendees across specialties and grades (figure 1). The majority felt very satisfied with the workings of the MDM (figure 2). Positive aspects highlighted

MDM Attendees

Abstract 178 Figure 1 Attendees represented the multidisciplinary nature of endocarditis care, and the opportunities for education in its management

OVERALL SATISFACTION WITH MDM

Abstract 178 Figure 2 Overall satisfaction with the MDM was high

Abstract 178 Table 1 Attendees were asked their opinions on the impact of MDM on patient

In your opinion, the MDM has improved the following...	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Clinical Decision Making	12 (71%)	5 (30%)			
Co-ordinated Patient Care	12 (71%)	5 (30%)			
Evidence based/guideline directed decision making	11 (65%)	5 (30%)	1 (6%)		
Timeliness of tests and treatments	5 (29%)	5 (30%)	6 (35%)		
Overall quality of treatment decisions	11 (59%)	6 (35%)			
Knowledge of imaging findings	10 (59%)	5 (30%)	1 (6%)		
Knowledge of antimicrobial findings	10 (59%)	6 (35%)	1 (6%)		
Knowledge of need for surgical intervention	12 (71%)	3 (18%)	2 (12%)		
Confidence in individual IE patient management	11 (65%)	5 (30%)	1 (6%)		

included the multidisciplinary input and educational aspects of the MDM. The meeting was felt to improve knowledge of, and confidence in, management of the condition (table 1). Comments for changes or improvements were predominantly related to time (2) and duration (3) of the meeting.

Conclusion We have successfully introduced an effective, well-attended, weekly MDM for the management of endocarditis, resulting in increased confidence in patient management, and the ability to coordinate investigation and on-going care for these patients.

Conflict of Interest na

179 CT-VISIBLE MICROSPHERES ENABLE IN VIVO TRACKING OF BIOMATERIAL DISTRIBUTION AFTER ULTRASOUND-GUIDED INTRAMYOCARDIAL INJECTION

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Efficacy of cell therapies are often diminished by low cell retention. A method to visualise the location of grafted cells and biomaterials after delivery could be used to optimise therapies by verifying injection success, retention of the therapeutic and distribution of the product. To address these challenges an injectable cell-substrate consisting of highly porous microspheres containing the computed tomography (CT) contrast agent barium sulphate (BaSO₄) was developed. Porous microspheres (<250 µm) were fabricated via Thermally Induced Phase Separation (TIPS) using a 2% (w/v) 75:25 poly (DL-lactide-co-glycolide) polymer solution containing a 20% (w/v) colloidal suspension of particulate BaSO₄. Culture media conditioned with BaSO₄-loaded microspheres (46.87 mg/ml) showed no significant toxicity when cultured with L929 fibroblasts for up to 7 days (maximum toxicity 12% vs 5% matched control media, n=4, p<0.01). Suspensions of BaSO₄-

Abstract 179 Figure 1 (A) CT scans of (i) control, (ii) 2%, (iii) 6%, and (iv) 20% (w/v) BaSO₄ TIPS microspheres *in vitro*. Hounsfield units (HU). (B) Reconstructed CT scans of the contrast signal (green) emitted by BaSO₄ TIPS microspheres *in vivo*. (C) MicroCT scan shows localization of trackable TIPS microspheres (white) in a murine heart (orange), 7 days after injection, also confirmed by (D) H&E stained histological sections

loaded microspheres generated high CT contrast *in vitro* (average 2023.6 Hounsfield Units $\pm$ 710 SD) (figure 1A) and were then tested *in vivo*. Three 50 μ l injections of BaSO₄-loaded microspheres (46.87 mg/ml in 60% GRANUGEL®; 21G needle) were delivered into the myocardium of Sprague Dawley rats under real-time ultrasound-guidance (n=6). Whole body CT scans revealed BaSO₄-loaded microspheres at the injection site within the myocardium at 1 hour, 2, 4 and 6 days after injection (figure 1B and 1C). These findings were confirmed by histology (figure 1D). A low level of microspheres was visualised in off-target organs including lung, brain and liver, indicating some material was lost during injection. These findings suggest that BaSO₄-loaded microspheres can be used as a novel tool for optimising delivery techniques and tracking persistence and distribution of implanted products.

Conflict of Interest None

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CURRENT CLINICAL USAGE OF CT CORONARY ANGIOGRAPHY. EMERGING INDICATIONS AND THE SCOURGE OF 'ATYPICAL CHEST PAIN'

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Background NICE guidelines for patients (PTs) with recent onset of chest pain suspected to be of cardiac origin recommend that CT angiography (CTA) should be the first anatomical test for chest PTs with angina, atypical angina, and non-anginal pain with an abnormal ECG. National audit has shown that, in spite of increasing numbers of CTA being performed, the number of invasive coronary angiograms (ICA) not leading to revascularisation is unchanged. We reviewed 712 CTAs performed in a district general hospital (DGH) to assess the clinical usage of CTA by looking at the requesting clinician's reason for ordering CTA and outcome in terms of yield of coronary artery disease (CAD)

Methods We reviewed the CTAs requested in 2020 in a large DGH with over 15 requesting clinicians. The clinician's reason for requesting the CTA was determined from the request form. If the request form did not include the character of the chest pain, the clinic letter was reviewed to determine the reason for requesting CTA. CTAs requested for PTs without chest

pain were subcategorised (see below). In PTs with chest pain, we recorded the presence of CAD with a >50% stenosis (CAD50) in any vessel and CAD70 defined as > 70% in the left anterior descending artery or dominant circumflex or right coronary artery. Scans were performed on Toshiba Aquilion I scanners and reported by consultant radiologists (HM & BR)

Results From a total of 717 attendings, 5 scans were not completed (heart rate control & venous access). 49% of the group were female (F) with a mean age of 63 years (F) and 61 years (M). Data from the remaining 712 scans shown in table 1. 241 (34%) scans were performed on PTs without chest pain. Of this group, 139 PTs (20% of total) had CTA to screen for possible CAD because of non-chest pain symptoms including arrhythmias, syncope, breathlessness, prior to non-cardiac surgery and if at high risk for CAD. A group of 90 PTs (13% of total) might have previously had ICA if CTA was not available. This group (B) included 31 (4%) PTs scanned prior to cardiothoracic surgery to exclude coronary disease, 46 (6%) had a previous myocardial infarction or revascularisation and 13 (2%) had CTA to exclude CAD as a cause of heart failure. 8 scans (1%) were to complete an ICA.

Discussion Approximately half of CTAs were performed on PTs who might previously have undergone ICA (groups A, AP & B). However, a substantial number (20%) had CTA to screen for possible CAD. These PTs might previously have had other investigations e.g., treadmill testing. Although ACP is not a guideline indicated reason for CTA, it is the single most common reason (27%) for requesting CTA. This may reflect clinicians' lack of distinction between ACP and AP, but the low rate of CAD70 in the ACP group suggests that a large

Abstract 180 Table 1

Chest pain description	Total (%)	CAD50 (%)	CAD70 (%)
Atypical chest pain (ACP)	193 (27)	19 (10)	3 (2)*
Angina (A)	125 (18)	37 (30)	25 (20) (p <0.05)
Atypical angina (AA)	105 (15)	13 (12)	5 (5)*
Non-Cardiac chest pain with abnormal ECG (AB)	47 (7)	2 (4%)	1 (2)