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 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

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 ±710 SD) (figure 1A) and were then tested in vivo. Three 50 µl 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