Cardiac computed tomography with dynamic perfusion was able to successfully guide implantation of a WiSE-CRT system. The workflow for a patient is shown in figures A-G. (A) CT angiogram showed the basal to mid anterior and anteroseptal segments were thinned, akinetic and replaced with fatty deposits. (B) Images were analyzed on a dedicated platform to reveal areas of hypo-perfusion which were represented on a 17-segment American Heart Association model and shown as blue and purple. (C) Mechanical activation showed the latest activation was in the basal inferior segment (light blue). (D) The basal inferolateral segment had a predicted 90% delay in electrical activation time (dark blue). (E) All the pre-procedural information was processed together and we predicted the optimal site for electrode deployment was between the basal inferolateral and inferior segments (red, orange and optimal target marked with black dot). (F) A three-dimensional shell with the target segments was overlaid onto live fluoroscopy to provide real-time guidance. The greatest acute haemodynamic response (AHR) was seen between the basal inferior and inferolateral segments, with areas of hypo-perfusion demonstrating no pacing capture or minimal increase in AHR. Fluoroscopic images in a AP (F) and LAO (G) projection are shown. The electrode was deployed within the target segments. (H) Overall, the box and whisker plot shows the target segments corresponded to the greatest improvement in acute haemodynamic measurements.