Illustration (A) and photograph (B) of simultaneous epicardial and endocardial mapping of the RA lateral wall using two HD grid catheters is shown (endocardial grid, epicardial grid) along with an epicardial quadripolar pacing catheter (orange). SVC: superior vena cava, IVC: inferior vena cava, RAA: right atrial appendage, RA: right atrium, RV: right ventricle, AO: aorta. (C) Phase mapping showing increasing dispersion of signal phase between the epicardial and endocardial surfaces with progression from sinus rhythm (SR) to pacing @400ms and programmed stimulation (PES). (D) Isochronal maps of an activation showing increasing functional dissociation with circuitous wavefront propagation, conduction slowing (iscochronal crowding) and marked wavefront propagation asymmetry (yellow dot arrows) with progressive change from SR to pacing @400ms to PES. (E and F) Bipolar voltage maps along orthogonal planes are shown. Marked voltage differences are seen between vertical and horizontal bipole electrode orientations. Consistent with asymmetric wavefront propagation, voltage differences are also noted between endocardium and epicardium during pacing @ 400ms and PES.