

PET and MRI Myocardial Infarction in Mice

Purpose of Study

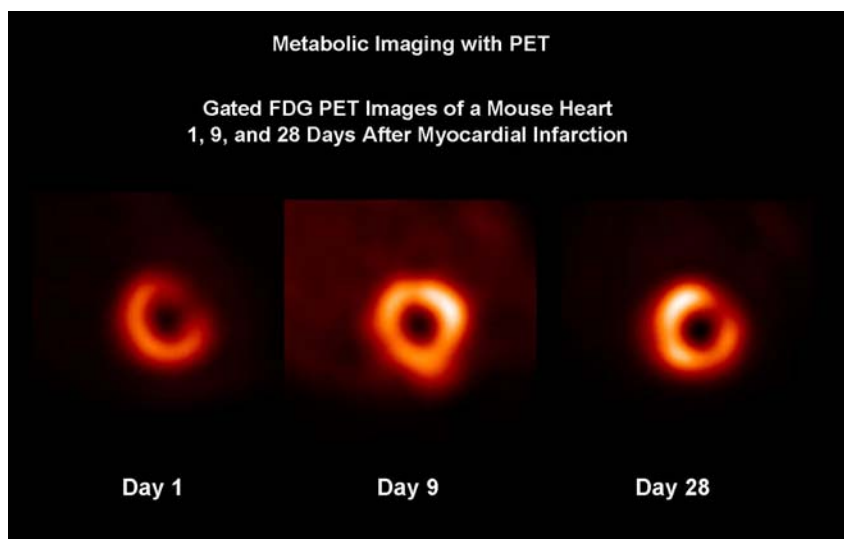
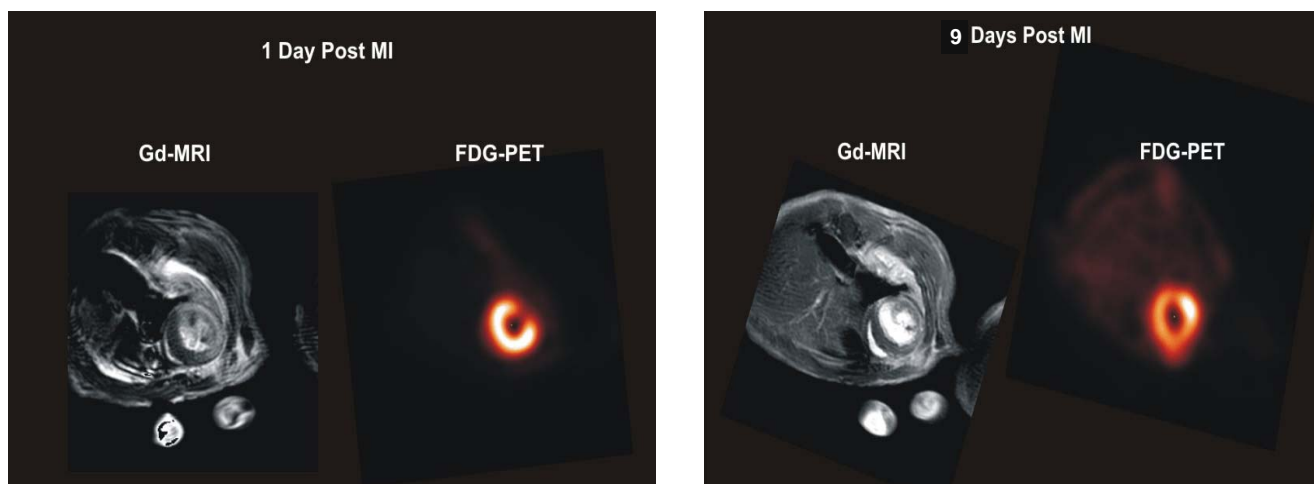
University of Virginia has developed methods to image the mouse heart using magnetic resonance and PET with 18 fluorodeoxy glucose (FDG). The MR and PET heart images in the first slide were acquired from the same mouse on the same day, one day after ischemia-reperfusion (IR) injury. The infarcted area becomes bright in the MR image after injection of Gd-DTPA. FDG does not accumulate in the infarction, and results in an area of hypointensity in the PET image. The second slide shows images 9 days after IR. The area of infarction (confirmed by MRI) becomes hyperintense due to the utilization of glucose by infiltrating macrophages. After 28 days, the macrophages are no longer active in the infarction, and the PET image again become hypointense.

Protocol:

PET images were acquired using an SA Instruments (Stony Brook, NY) Model 1025L Monitoring and Gating System, 150 min post injection of 100 Ci, 970 μ Ci IV injection 18 [F]FDG. The mouse was positioned so that we could reconstruct short axis, gated PET images of the heart.

Scanner- microPET Focus 120

Subject: 25 g C57-BL6 mouse
Instrument: Focus 120
Tracer / Contrast Agent(s): FDG



Data courtesy of University of Virginia, Stuart S. Berr, Ph.D.