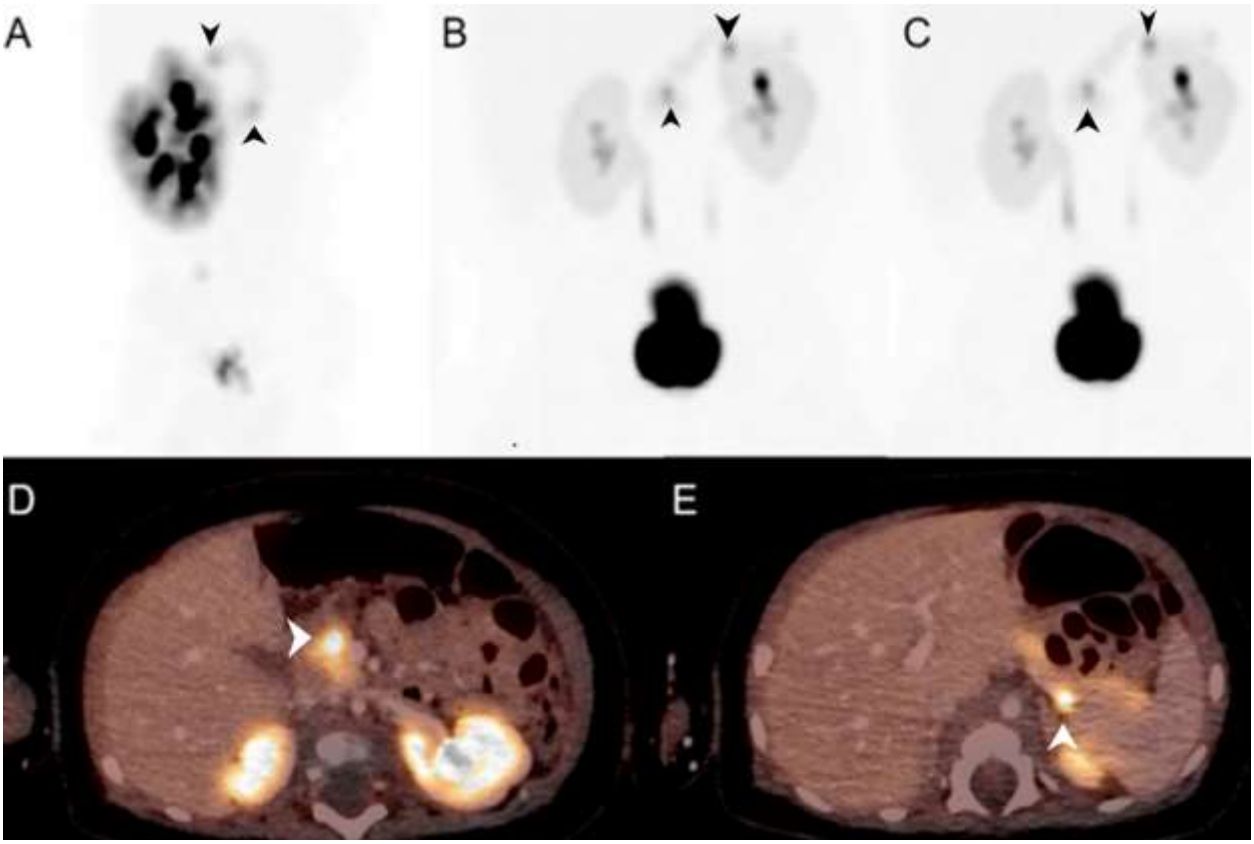
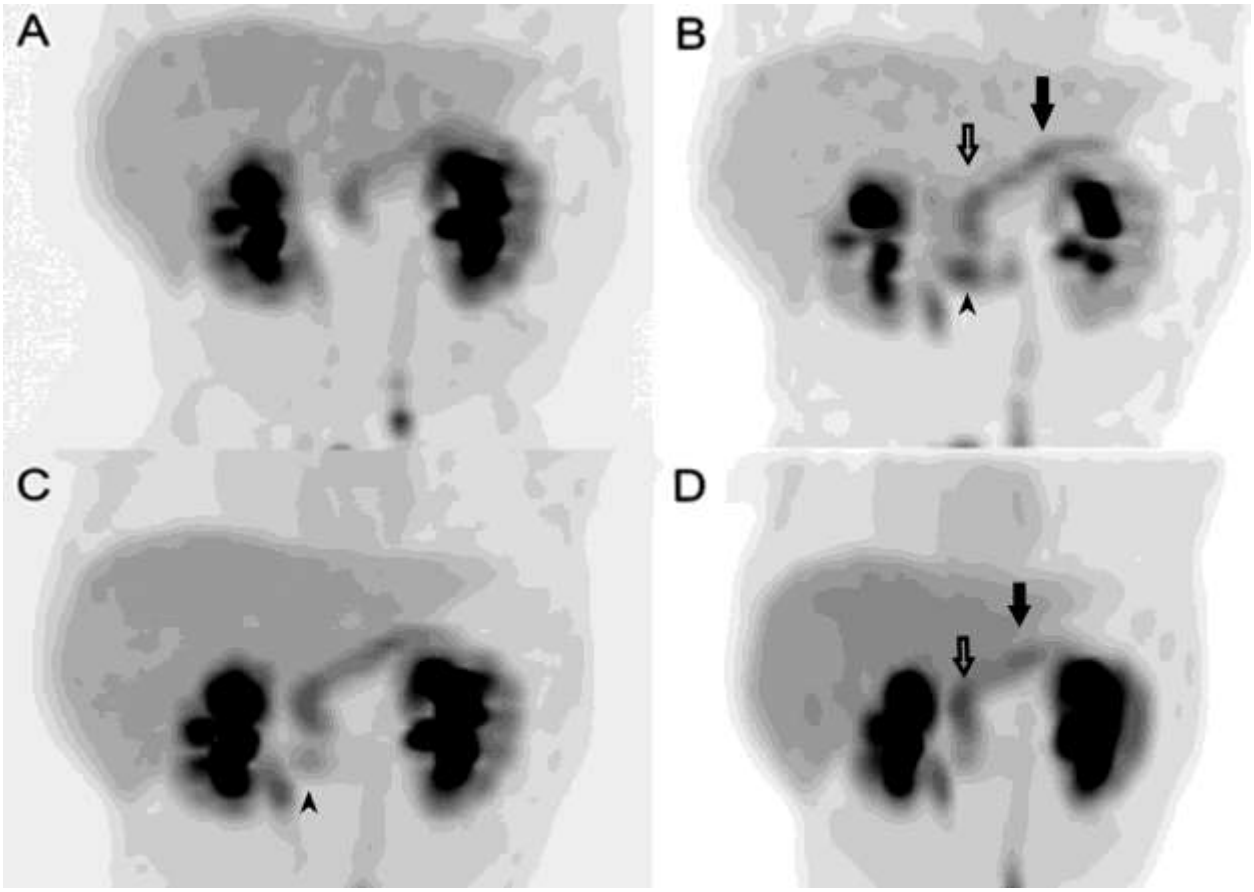
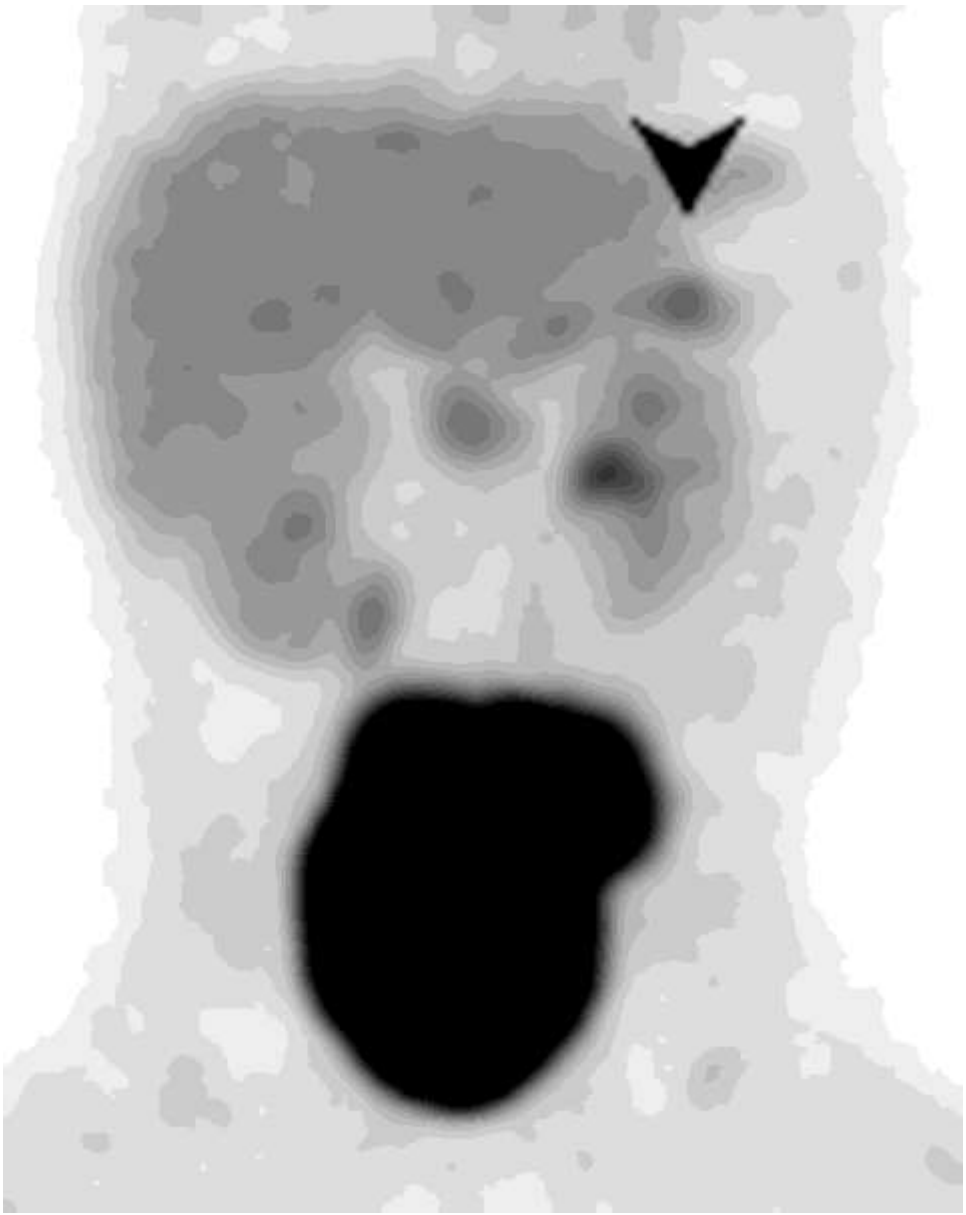


Supplemental Fig. 1. Two focal lesions, same case as Fig. 5. 18F-FDOPA 3D MIP images at 50 minutes (A,B,C) show a focal lesion in the head (arrowhead) and a focal lesion in pancreatic body/tail junction (arrowhead). Axial fused PET-CT images show a contour deforming mass along the anterior aspect of the pancreatic head (arrowhead) (D) and anexophytic mass at the posterior body/tail junction(arrowhead) (E). Lesions were excised with 10% pancreatectomy.

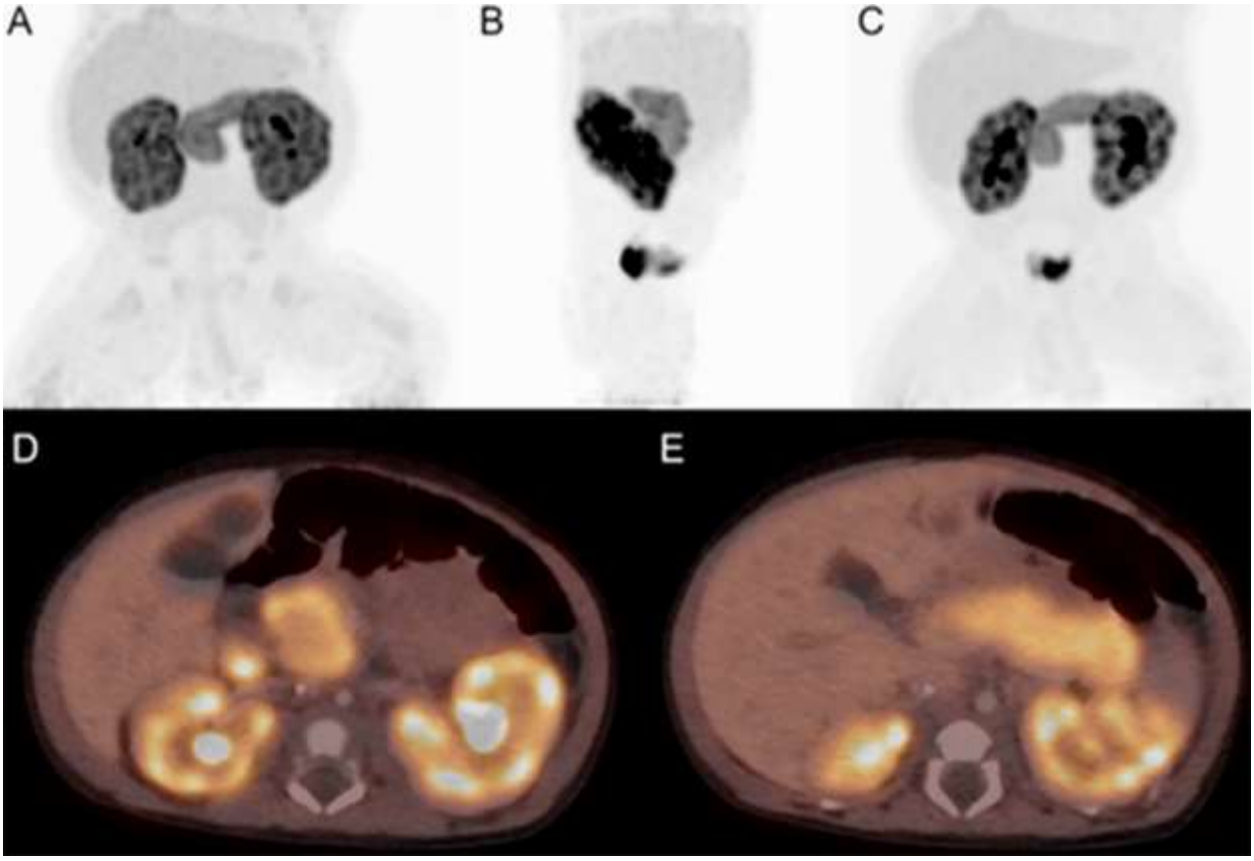
Supplemental Fig. 2. Diffuse disease. A 2-month-old male with diazoxide-unresponsive hyperinsulinism. 18F-FDOPA 3D summed MIP shows mild increased activity in the pancreatic head. Biopsies of head, neck and body were consistent with diffuse disease. Patient underwent 98% pancreatectomy.



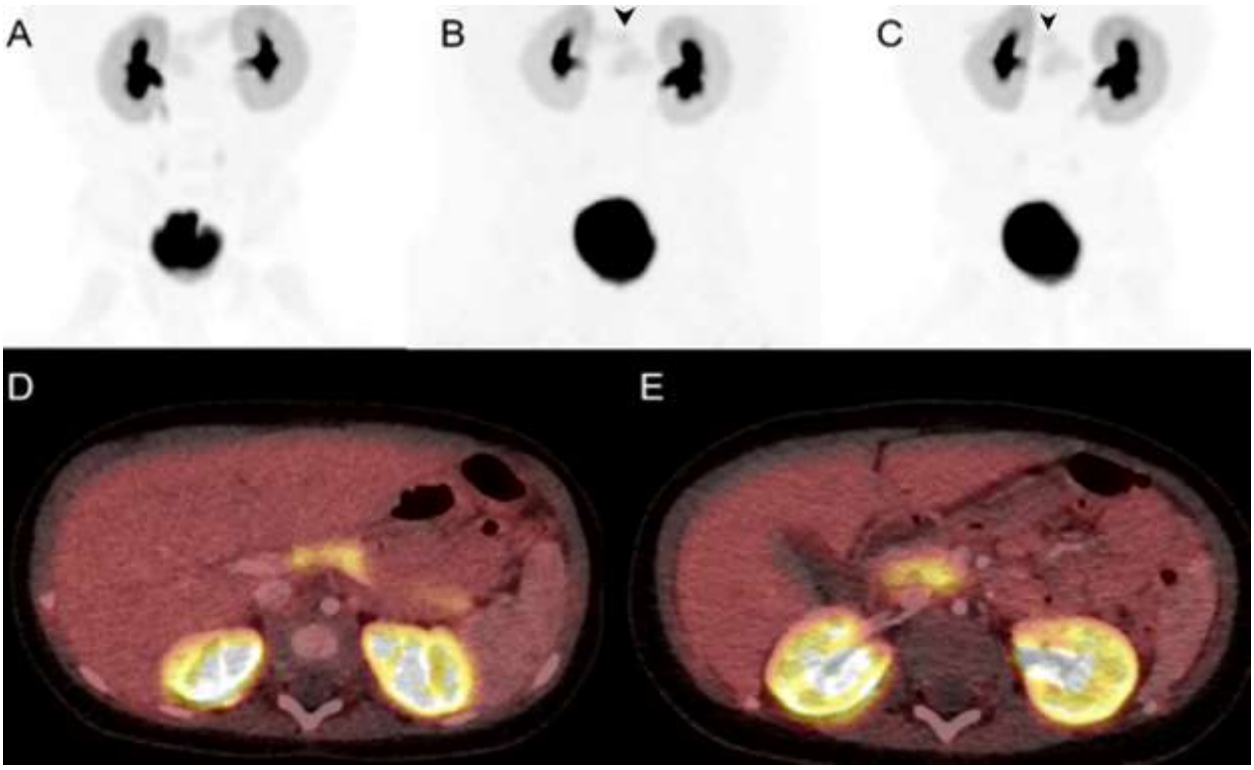
Supplemental Fig. 3. Diffuse disease with heterogeneous uptake and excretion of tracer from liver to duodenum. A 2-month-old male with diazoxide-unresponsive hyperinsulinism. (A) 18F-FDOPA 3D MIP at 10 minutes, (B) 50 minutes and (C,D) summed shows mild increased activity in the pancreatic head (open arrow) and mild focal activity at the body tail junction. Biopsies of head, neck and body were consistent with diffuse disease. Patient underwent 98% pancreatectomy. Also note arrowheads depicting duodenal activity. The activity changes over time confirming peristalsis and movement. If the activity was persistent and didn't change, ectopic lesions in pancreatic rests would need to be considered.



Supplemental Fig. 4. Focal lesion in pancreatic tail. A 2-month-old female with no mutations. 18F-FDOPA 3D summed MIP shows mild uptake in a focal lesion in the pancreatic tail. Note the proximity to the kidney.



Supplemental Fig.5. Beckwith-Wiedemann syndrome. A 1-month-old male with suspected Beckwith-Wiedemann syndrome presented with severe, persistent hypoglycemia. 18F-FDOPA 3D MIP images at 10 minutes (A,B,C) and fused 18F-FDOPA with noncontrast CT (D,E) show heterogeneous uptake within a markedly enlarged pancreas, typical of Beckwith-Wiedemann syndrome. Increased peripheral cortical uptake within enlarged kidneys is also related to patient's syndrome. Patient underwent 95% pancreatectomy.



Supplemental Fig. 6. Diffuse disease. A 10-month-old with congenital hyperinsulinism that was responsive to medical therapy, however, with genetic mutation in ABCC8 concerning for focal disease. 18F-FDOPA 3D MIP images at 10 minutes anterior view (A), 50 minutes, posterior view (B) and summed MIP, rotated view show an exophytic focus of activity isointense to pancreas (arrowhead). Axial fused PET-CT images show no focal lesion (D,E). Surgical biopsies of the head, body and tail showed islet nucleomegaly consistent with diffuse disease. Patient was treated medically.