

Supplemental Table 1. Patients' clinical characteristics

Patient	Age	Gender	Primary tumor site	Biopsy site	Tumor grade	Ki67 value	Therapies	Indication of imaging	Primary tumor resected
1	31	Female	Pancreas	Liver	G2	15%	/	Staging	No
2	36	male	small intestine	Liver	G1	2%	Surgery	Restaging	No
3	47	Female	Pancreas	Liver	G2	8%	/	Staging	No
4	30	Male	Pancreas	Pancreas	G2	15%	Surgery + SSA	Restaging	Yes
5	44	Female	Pancreas	Pancreas	G1	1%	Surgery + PMCT + Chemotherapy	Restaging	Yes
6	61	Female	CUP	Liver	G1	2%	/	Staging	No
7	41	Male	Multiple sites *	Thymus	G2	3%	/	Staging	No
8	16	Female	Pancreas	Pancreas	G2	10%	Surgery	Restaging	Yes
9	46	Male	Rectum	Liver	G2	15%	/	Staging	No
10	68	Male	Rectum	Liver	G2	8%	/	Staging	No
11	48	Male	Rectum	Rectum	G1	2%	Surgery	Restaging	Yes
12	57	Female	Pancreas	Liver	G2	3%	Surgery + SSA + Chemotherapy	Restaging	No
13	55	Male	Rectum	Rectum	G2	10%	Surgery + PMCT	Restaging	Yes
14	66	Female	Kidney	Kidney	G2	NA	Surgery + EBRT	Restaging	Yes
15	68	Male	Multiple sites *	Duodenum	G1	NA	Surgery	Restaging	Yes
16	58	Male	Pancreas	Liver	G2	5%	/	Staging	No
17	65	Female	Pancreas	Pancreas	G2	5%	Surgery	Restaging	Yes
18	62	Male	Stomach	Stomach	G2	10%	Targeted therapy	Restaging	No
19	72	Male	Pancreas	Liver	G2	20%	Surgery + SSA+ Targeted therapy	Restaging	Yes
20	29	Female	Multiple sites *	Thymus	G2	15%	Surgery	Restaging	Yes
21	73	Female	Small intestine	Liver	G2	5%	/	Staging	No
22	70	Female	Pancreas	Pancreas	G2	5%	Surgery	Restaging	Yes
23	47	Male	Pancreas	Liver	G2	8%	Surgery	Restaging	No

24	39	Female	Pancreas	Pancreas	G1	<1%	Surgery	Restaging	Yes
25	65	Female	Pancreas	Liver	G2	15%	/	Staging	No
26	37	Female	Duodenum	Liver	G2	9%	TACE	Restaging	No
27	52	Female	Pancreas	Liver	G2	10%	Surgery	Restaging	No
28	63	Male	Pancreas	Pancreas	G2	4%	Surgery	Restaging	Yes
29	64	Male	Rectum	Liver	G2	8%	/	Staging	No
30	47	Male	Rectum	Rectum	G2	15%	Surgery	Restaging	Yes
31	59	Male	Pancreas	Liver	G2	15%	/	Staging	No
32	57	Female	CUP	Lymph node	G2	10%	Surgery	Restaging	No
33	50	Male	Pancreas	Liver	G1	1%	Surgery	Restaging	No
34	51	Male	Rectum	Rectum	G2	5%	Surgery	Restaging	Yes
35	67	Male	Pancreas	Liver	G1	2%	/	Staging	No
36	44	Female	Stomach	Stomach	G2	3%	Surgery	Restaging	Yes
37	58	Male	Pancreas	Liver	G2	15%	/	Staging	No
38	79	Male	Lung	Lung	G1	2%	Surgery + PMCT	Restaging	Yes
39	49	Female	Small intestine	Liver	G2	5%	/	Staging	No
40	59	Female	Rectum	Rectum	G2	3%	/	Staging	No
41	30	Female	Stomach	Stomach	G2	5%	Surgery	Restaging	Yes
42	43	Male	Rectum	Rectum	G1	1%	TACE + SSA + Chemotherapy	Restaging	No
43	51	Male	Rectum	Rectum	G2	15%	/	Staging	No
44	56	Female	Stomach	Stomach	G1	1%	/	Staging	No
45	54	Female	Pancreas	Pancreas	G1	<2%	Surgery + SSA+ Chemotherapy	Restaging	Yes
46	54	Female	Rectum	Rectum	G2	10%	/	Staging	No
47	79	Female	Pancreas	Pancreas	G1	2%	/	Staging	No
48	65	Female	Rectum	Rectum	G2	18%	Surgery	Restaging	Yes

NA: not available

SSA: Somatostatin analogues.

PMCT: Percutaneous microwave coagulation therapy.

EBRT: External beam radiation therapy.

TACE: Transhepatic arterial chemotherapy and embolization.

\* Patient 7, 15 and 20 were diagnosed as multiple endocrine neoplasia type 1, presenting with multiple neuroendocrine tumors in the pancreas and thymus for patient 7, pancreas, duodenum and thymus (resected) for patient 15, pancreas and thymus (resected) for patient 20, respectively.

Patient 1-24 were from The First Affiliated Hospital of Fujian Medical University.

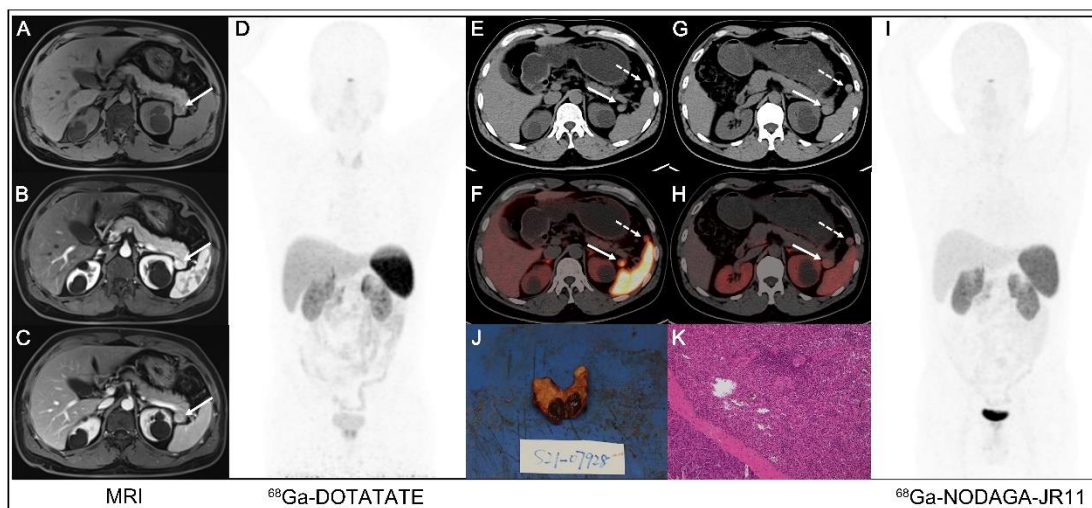
Patient 25-48 were from Peking Union Medical College Hospital.

Supplemental Table 2. Number of Lesions Found on  $^{68}\text{Ga}$ -NODAGA-JR11 and  $^{68}\text{Ga}$ -DOTATATE PET/CT

Patient	Primary tumor		Liver metastases		Bone metastases		Lymph node metastases		Other metastases		Total lesions	
	JR11	TATE	JR11	TATE	JR11	TATE	JR11	TATE	JR11	TATE	JR11	TATE
1	1	1	20	20	-	-	-	-	-	-	21	21
2	1	1	11	14	-	-	2	2	-	-	14	17
3	1	1	47	46	-	-	-	-	3	3	51	50
4	-	-	1	1	-	-	-	-	1	1	2	2
5	-	-	1	1	-	-	-	-	-	-	1	1
6	-	-	30	29	-	-	-	-	-	-	30	29
7	11	9	-	-	10*	10*	13	13	15	15	49	47
8	-	-	-	-	-	-	-	-	1	1	1	1
9	1	1	55	51	10*	10*	4	4	1	1	71	67
10	1	1	10	2	7	0	1	1	-	-	19	4
11	-	-	-	-	-	-	3	3	-	-	3	3
12	1	1	5	1	-	-	1	1	-	-	7	3
13	-	-	5	11	-	-	-	-	-	-	5	11
14	-	-	-	-	1	1	7	7	-	-	8	8
15	3	3	-	-	1	1	-	-	0	0	4	4
16	3	3	-	-	-	-	-	-	-	-	3	3
17	1	1	-	-	1	1	2	1	-	-	4	3
18	1	-	8	0	-	-	-	-	-	-	9	0
19	-	-	21	21	-	-	9	9	-	-	30	30
20	1	1	-	-	10	10	-	-	-	-	11	11
21	1	1	16	16	86	86	-	-	-	-	103	103
22	-	-	-	-	1	1	-	-	-	-	1	1
23	1	1	53	31	2	2	1	0	1	1	58	35
24	-	-	14	15	-	-	-	-	-	-	14	15
25	1	1	20	18	-	-	-	-	-	-	21	19
26	1	1	42	35	-	-	-	-	1	1	44	37
27	1	1	1	1	-	-	1	1	-	-	3	3
28	-	-	56	41	-	-	6	5	-	-	62	46
29	1	1	10	10	81	89	-	-	1	1	93	101
30	-	-	-	-	-	-	2	2	-	-	2	2
31	1	1	4	3	-	-	-	-	-	-	5	4
32	-	-	7	0	9	8	3	0	1	0	20	8
33	1	1	1	1	-	-	-	-	-	-	2	2
34	-	-	-	-	-	-	5	5	-	-	5	5
35	1	1	4	3	-	-	7	7	7	7	19	18

36	-	-	14	6	-	-	-	-	-	-	14	6
37	1	1	5	3	-	-	2	2	1	1	9	7
38	-	-	10	10	3	3	-	-	2	2	15	15
39	1	1	26	24	2	2	-	-	-	-	29	27
40	1	1	39	37	13	19	9	9	2	2	64	68
41	-	-	2	7	-	-	1	1	-	-	3	8
42	1	1	24	24	1	1	2	2	-	-	28	28
43	1	1	34	30	-	-	3	4	-	-	38	35
44	1	1	36	32	-	-	3	3	-	-	40	36
45	-	-	29	29	1	1	2	2	3	3	35	35
46	1	1	7	7	5	5	3	3	-	-	16	16
47	1	1	4	4	-	-	1	1	-	-	6	6
48	-	-	1	0	1	1	1	1	-	-	3	2
Sum	43	40	673	584	245	251	94	89	40	39	1095	1003
<i>P</i> value	0.5		0.002		1.0		0.375		0.007			

\* Patients 7 and 9 had heterogeneous diffuse osseous uptake of both  $^{68}\text{Ga}$ -DOTATATE and  $^{68}\text{Ga}$ -NODAGA-JR11. We arbitrarily set the number of osseous lesions to be ten.



Supplemental Figure 1. Intrapancreatic accessory spleen (IPAS) mimicking NET on  $^{68}\text{Ga}$ -DOTATATE and  $^{68}\text{Ga}$ -NODAGA-JR11 PET/CT scan.

A 47-year-old man presented with abdominal pain for 1 month. Abdominal MRI transaxial T1-weighted image showed a 1.9 cm  $\times$  1.6 cm inconclusive hypointense lesion in the posterior portion of the distal pancreatic tail, near the splenic hilum (a, arrow). The lesion showed enhancement at arterial phase (b, arrow) while the degree of enhancement was slightly decreased at portal venous phase (c, arrow). The lesion enhancement pattern highly suspected pancreatic NET in MRI. Hence,  $^{68}\text{Ga}$ -DOTATATE and  $^{68}\text{Ga}$ -NODAGA-JR11 PET/CT was performed for staging. The MIP image (d) and axial images of  $^{68}\text{Ga}$ -DOTATATE PET/CT (e, CT scan; f, fused PET/CT image) showed the lesion in pancreatic tail with intense uptake (SUVmax 24; arrows) and difficulty identifying the NET and IPAS. And it also observed a high uptake nodule (SUVmax 20; dotted arrows) below the spleen (SUVmax 27) diagnosed with accessory spleen according to the typical location. The MIP image (i) and axial image of  $^{68}\text{Ga}$ -NODAGA-JR11 PET/CT scan (g, CT scan; h, fused PET/CT image) also observed the two lesions with slight uptake (SUVmax 13; arrows and SUVmax 12; dotted arrows). In addition, the spleen SUVmax was 13 in  $^{68}\text{Ga}$ -NODAGA-JR11 PET/CT. Based on these findings, a spleen-preserving pancreatic tail resection was subsequently performed (j). Histopathology confirmed the diagnosis of IPAS (k).