Supplemental Table 1. Non-hematological and hematological lab results prior and after ^{177}Lu-PSMA-I&T rechallenge

Pat ID	Hemoglobin (g/dl)		Thrombocytes (10^9/L)		WBC (10^9/L)		Creatinine (mg/dl)		Creatinine clearance (ml/min)*		Xerostomia
	prior	**after**	prior	**after**	prior	**after**	prior	**after**	prior	after	
1	10.9	**10.3**	208	**171**	5.2	**3.4**	1	**1**	71	70	-
2	10.5	**9.9**	129	**27**	2.9	**2.6**	0.9	**0.9**	82	82	-
3	11.2	**8.9**	297	**238**	7.5	**4.5**	1.6	**1.4**	44	51	-
4	10.2	**9.1**	117	**43**	5.9	**3.6**	0.9	**0.8**	67	76	Persistent
5	9.1	**7.9**	103	**88**	4	**2.4**	1.7	**1.7**	54	54	-
6	11.5	**8.4**	298	**83**	6.8	**5**	0.8	**0.7**	81	85	Transient
7	11.1	**11.3**	336	**286**	9	**4.63**	1.1	**1.1**	62	62	-
8	8.9	**8.2**	124	**113**	3.7	**2.95**	1.3	**1.5**	71	60	-

*Creatinine Clearance was calculated after Cockcroft-Gault method.
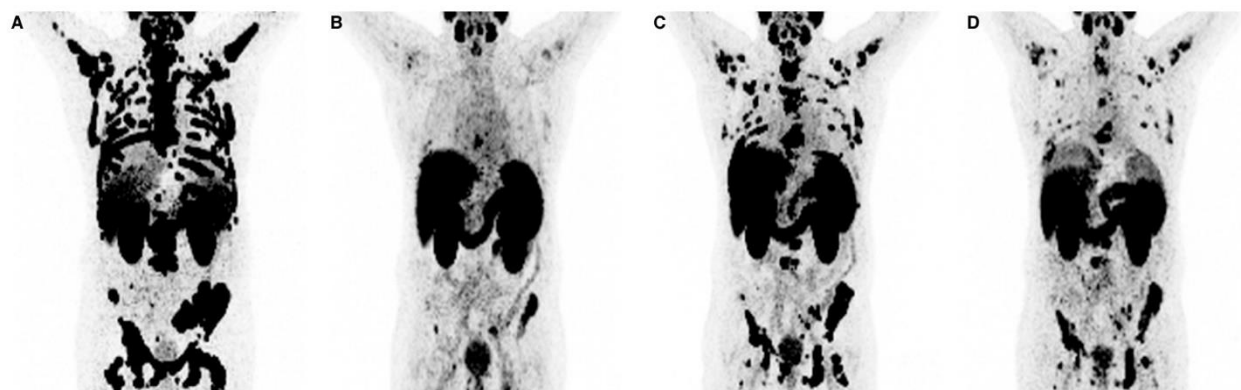
Supplemental Figure 1. ^{68}Ga-PSMA PETs MIP images of patient 5 **(A)** at baseline, **(B)** after 6 cycles of initial ^{177}Lu-PSMA RLT, **(C)** after 4.9 months of ^{177}Lu-PSMA-free interval and **(D)** after 2 cycles of ^{177}Lu-PSMA rechallenge. During initial ^{177}Lu-PSMA RLT, patient had an excellent radiographic (A,B) and biochemical (PSA decline: 176 → 1 ng/mL) antitumor response. During ^{177}Lu-PSMA-free interval, the patient had a significant tumor progress (B,C) and increasing PSA levels (1 → 45 ng/mL). After ^{177}Lu-PSMA rechallenge, the patient exhibited a radiographic partial response (C,D) and decreasing PSA levels (45 → 8 ng/mL). The treatment was discontinued due to high toxicity levels (anemia, thrombocytopenia, leucopenia).