

Supplementary Materials: The impact of PSMA-PET on Oncologic Control in Prostate Cancer Patients Who Experienced PSA Persistence or Recurrence

Lorenzo Bianchi, Francesco Ceci, Francesco Costa, Eleonora Balestrazzi, Matteo Droghetti, Pietro Piazza, Alessandro Pissavini, Riccardo Mei, Andrea Farolfi, Paolo Castellucci, Stefano Puliatti, Alessandro Larcher, Giorgio Gandaglia, Daniele Robesti, Alexandre Mottrie, Alberto Briganti, Alessio Giuseppe Morganti, Stefano Fanti, Francesco Mortorsi, Riccardo Schiavina and Eugenio Brunocilla

Table S1. Descriptive characteristics in patients with positive PSMA-PET ($n = 193$), in the pre-salvage ($n = 69$) and post-salvage ($n = 124$) setting, stratifying according to localization of disease at PSMA-PET (namely, local and/or N1 vs. M1).

| | Pre-salvage setting, $n = 69$ (36%) | | | Post-salvage setting, $n = 124$ (64%) | | |
|--------------------------------------|--|------------------|-----------|--|-----------------|--------------|
| | Local and/or N1 | M1 | p value | Local and/or N1 | M1 | p value |
| Patients, n (%) | 31 (44.9) | 38 (55.1) | | 66 (53.2) | 58 (46.8) | - |
| Age | | | | | | |
| Median (IQR) | 63 (59–70) | 64 (57–69) | 0.8 | 62 (56–66) | 62 (58–68) | 0.4 |
| PSA level at RP (ng/ml) | | | | | | |
| Median (IQR) | 6.9 (6–9.8) | 8.25 (5.45–20.5) | 0.7 | 9.7 (7–13.9) | 10.7 (4.6–18) | 0.8 |
| pT stage, n (%) | | | | | | |
| pT2 | 10 (32.3) | 2 (5.3) | 0.001 | 25 (37.9) | 15 (25.9) | 0.03 |
| pT3a | 13 (41.9) | 10 (26.3) | | 25 (37.9) | 16 (27.6) | |
| pT3b–pT4 | 8 (25.8) | 26 (68.4) | | 16 (24.2) | 27 (46.6) | |
| pN stage, n (%) | | | | | | |
| pNx | 5 (16.1) | 4 (10.5) | 0.4 | 21 (31.8) | 9 (15.5) | 0.04 |
| pN0 | 17 (54.8) | 17 (44.7) | | 34 (51.5) | 30 (51.7) | |
| pN1 | 9 (29) | 17 (44.7) | | 11 (16.7) | 19 (32.8) | |
| Pathologic ISUP group, n (%) | | | | | | |
| ISUP 1-3 | 17 (54.8) | 7 (8.4) | 0.002 | 41 (62.1) | 17 (29.3) | ≤ 0.001 |
| ISUP 4-5 | 14 (45.2) | 31 (81.6) | | 25 (37.9) | 41 (70.7) | |
| Adjuvant Radiotherapy, n (%) | | | | | | |
| Yes | 5 (16.1) | 14 (36.8) | 0.055 | 11 (16.7) | 27 (46.6) | ≤ 0.001 |
| No | 26 (83.9) | 24 (3.2) | | 55 (83.3) | 31 (53.4) | |
| PSA level at PET PSMA, ng/ml | | | | | | |
| Median (IQR) | 0.4 (0.21–1.55) | 0.84 (0.4–2.3) | 0.1 | 0.62 (.26–1.3) | 0.69 (0.4–1.65) | 0.3 |

PSMA: Prostate Specific Membrane Antigen; PET: Positron Emission Tomography; IQR: interquartile range; PSA: prostate specific antigen; RP: radical prostatectomy; ISUP: International Society of Urological Pathology.

Table S2. Descriptive characteristics in patients with positive PSMA-PET ($n = 193$), in the pre-salvage ($n = 69$) and post-salvage ($n = 124$) setting stratifying according to stage of disease at PSMA-PET (namely, oligorecurrent vs polirecurrent).

| | Pre-salvage setting, $n = 69$ (36%) | | | Post-salvage setting, $n = 124$ (64%) | | |
|--|--|--------------------------------|-----------|--|--------------------------------|-----------|
| | Oligorecurrent (≤ 3 lesions) | Polirecurrent (> 3 lesions) | p value | Oligorecurrent (≤ 3 lesions) | Polirecurrent (> 3 lesions) | p value |
| Patients, n (%) | 62 (90) | 7 (10) | - | 113 (91) | 11 (9) | - |
| Age | | | | | | |
| Median (IQR) | 63 (59–68) | 72 (68–74) | 0.02 | 62 (56–66) | 68 (61–73) | 0.048 |
| PSA level at radical treatment (ng/ml) | | | 0.07 | | | 0.2 |
| Median (IQR) | 6.9 (6–16) | 8 (6.8 - | | 9.38 (5.6–14.8) | 13.45 (5.95–30) | |
| pT stage, n (%) | | | | | | |
| pT2 | 12 (19.4) | 0 | 0.02 | 38 (33.6) | 2 (18.2) | 0.1 |
| pT3a | 23 (37.1) | 0 | | 39 (34.5) | 2 (18.2) | |
| pT3b–pT4 | 27 (43.5) | 7 (100) | | 36 (31.9) | 7 (63.6) | |
| pN stage, n (%) | | | | | | |
| pNx | 7 (11.3) | 2 (28.6) | 0.3 | 29 (25.7) | 1 (9.1) | 0.04 |
| pN0 | 32 (51.6) | 2 (28.6) | | 69 (53.1) | 4 (36.4) | |
| pN1 | 23 (37.1) | 3 (42.9) | | 24 (21.2) | 6 (54.5) | |
| Pathologic ISUP group, n (%) | | | | | | |
| ISUP 1-3 | 24 (38.7) | 0 | 0.04 | 55 (48.7) | 3 (27.3) | 0.2 |
| ISUP 4-5 | 38 (61.3) | 7 (100) | | 58 (51.3) | 8 (72.7) | |
| Adjuvant Radiotherapy, n (%) | | | | | | |
| Yes | 15 (24.2) | 4 (57.1) | 0.06 | 30 (26.5) | 8 (72.7) | 0.002 |
| No | 47 (75.8) | 3 (42.9) | | 83 (73.5) | 3 (27.3) | |
| PSA level at PET PSMA, ng/ml | | | 0.07 | | | 0.009 |
| Median (IQR) | 0.7 (0.3–1.66) | 1.9 (0.87–3.16) | | 0.6 (0.3–1.3) | 1.8 (0.5–3.7) | |

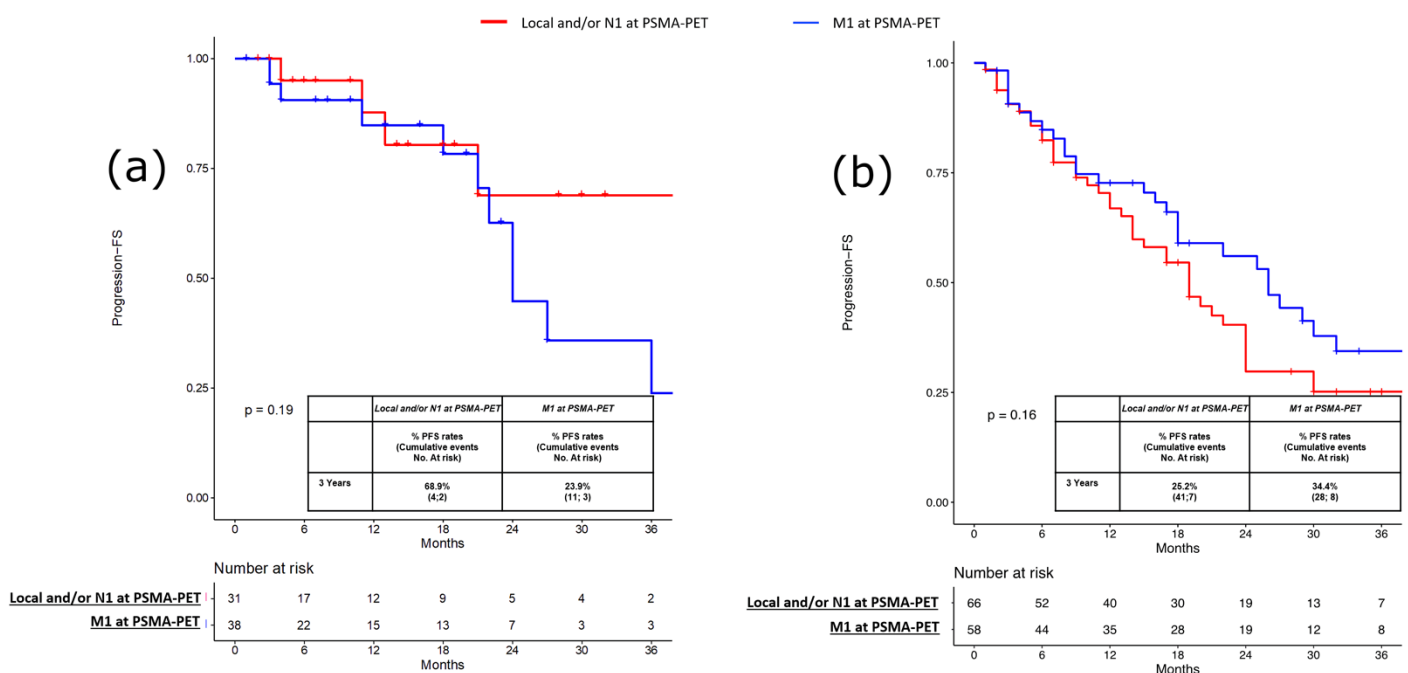


Figure S1. Kaplan-Meier curves depicting Progression Free Survival (PFS) rates of patients with positive PSMA-PET (a) in the pre-salvage setting ($n = 69$) and (b) in the post-salvage setting ($n = 124$) according to anatomic sites of recurrence depicted at PSMA-PET (namely, local and/or N1 vs. M1).

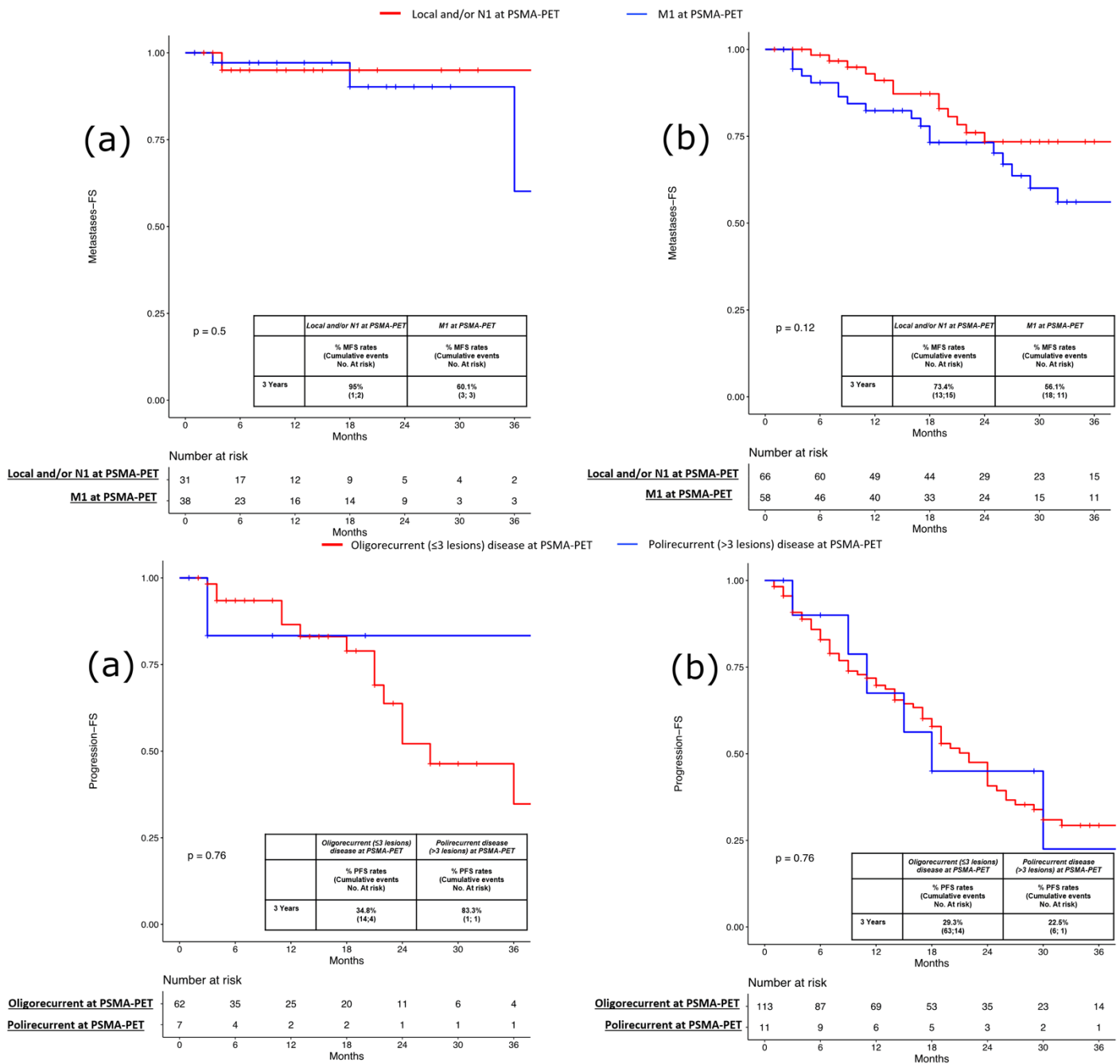


Figure S2. Kaplan-Meier curve depicting Metastases Free Survival (MFS) rates of patients with positive PSMA-PET (a) in the pre-salvage setting ($n = 69$) and (b) in the post-salvage setting ($n = 124$) according to anatomic sites of recurrence depicted at PSMA-PET (namely, local and/or N1 vs. M1).

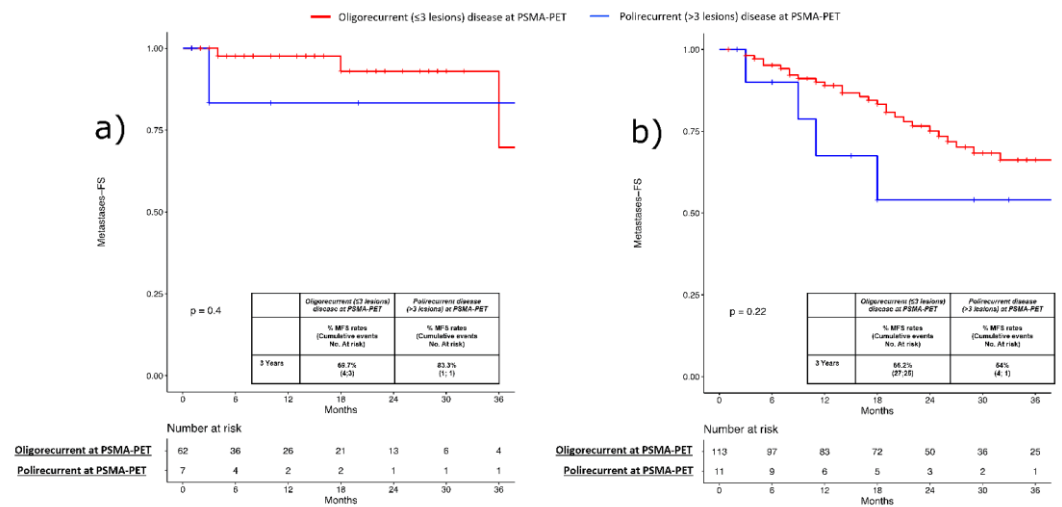


Figure S3. Kaplan-Meier curves depicting Progression Free Survival (PFS) rates of patients with positive PSMA-PET (a) in the pre-salvage setting ($n = 69$) and (b) in the post-salvage setting ($n = 124$) according to number of lesions depicted at PSMA-PET (namely, oligo-recurrent ≤ 3 lesions] vs. polirecurrent Pca >3 lesions].

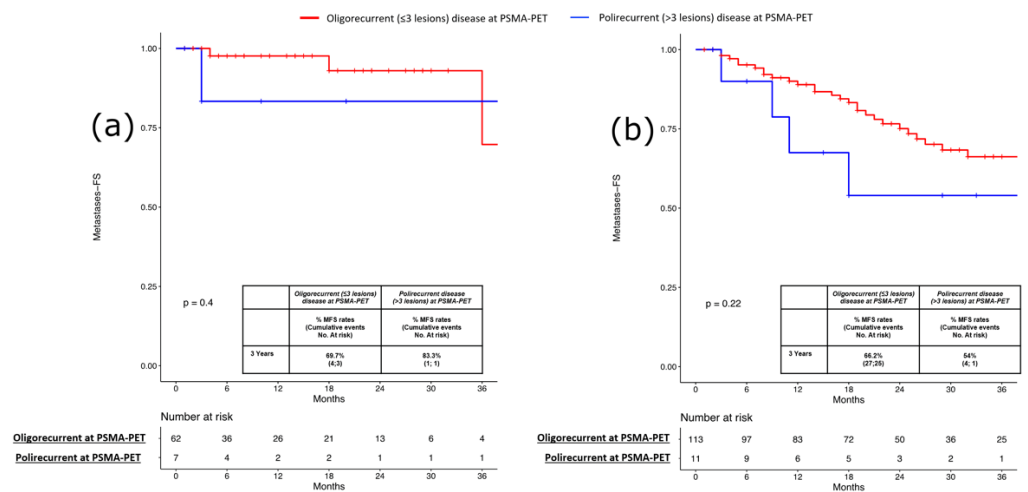


Figure S4. Kaplan-Meier curve depicting Metastases Free Survival (MFS) rates of patients with positive PSMA-PET (a) in the pre-salvage setting ($n = 69$) and (b) in the post-salvage setting ($n = 124$) according to number of lesions depicted at PSMA-PET (namely, oligo-recurrent ≤ 3 lesions] vs. polirecurrent Pca >3 lesions].