

## RESULTS

### Reader-based Diagnostic Performance

*Patient-based Analysis.* Data from Reader 1 demonstrated that  $^{18}\text{F}$ -rhPSMA-7.3 positron emission tomography (PET) detected 16 out of 24 patients with histologically verified lymph node metastasis while 3 of 59 patients without lymph node metastases were positive on  $^{18}\text{F}$ -rhPSMA-7.3. For Reader 2, these were 17/24 and 2/59, respectively and for Reader 3, these were 16/24 and 3/59, respectively. Morphological imaging true positive rates were 7/24 for Reader 1, 10/24 for Reader 2 and 14/24 for Reader 3, while false positives were 3/59, 6/59 and 9/59, respectively. The patient-based sensitivity, specificity, and accuracy of  $^{18}\text{F}$ -rhPSMA-7.3 PET and for morphological imaging for each reader are presented in Table 3.

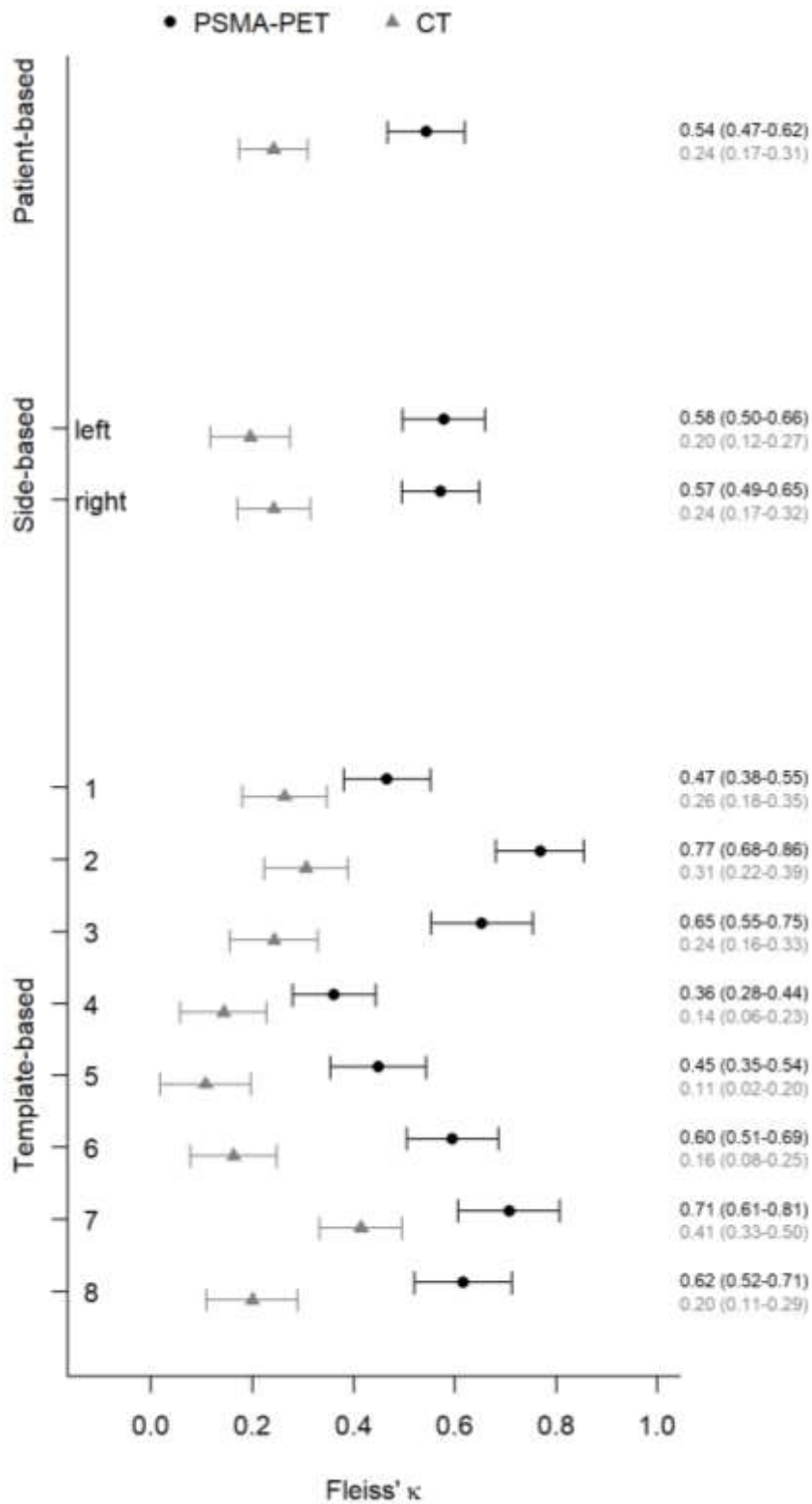
*Right vs. Left-side Analysis.* When considering the right- vs. left-side analysis, data from Reader 1 demonstrated that  $^{18}\text{F}$ -rhPSMA-7.3 PET detected 23 out of 33 patients with histologically verified lymph node metastasis while 3 of 133 patients without lymph node metastases were positive on  $^{18}\text{F}$ -rhPSMA-7.3. For both Reader 2 and Reader 3 the rates of true positive were 23/33 and false positive were 4/13. Morphological imaging true positive rates were 7/33 for Reader 1, 10/33 for Reader 2 and 14/33 for Reader 3, while false positives were 3/133, 8/133 and 13/133, respectively. The right- vs. left-based sensitivity, specificity, and accuracy of  $^{18}\text{F}$ -rhPSMA-7.3 PET and for morphological imaging for each reader are presented in Table 3.

*Template-Based Analysis.* When considering the template-based analysis, data from Reader 1 demonstrated that  $^{18}\text{F}$ -rhPSMA-7.3 PET detected 30 out of 48 patients with histologically verified lymph node metastasis while 10 of 420 patients without lymph node metastases were positive

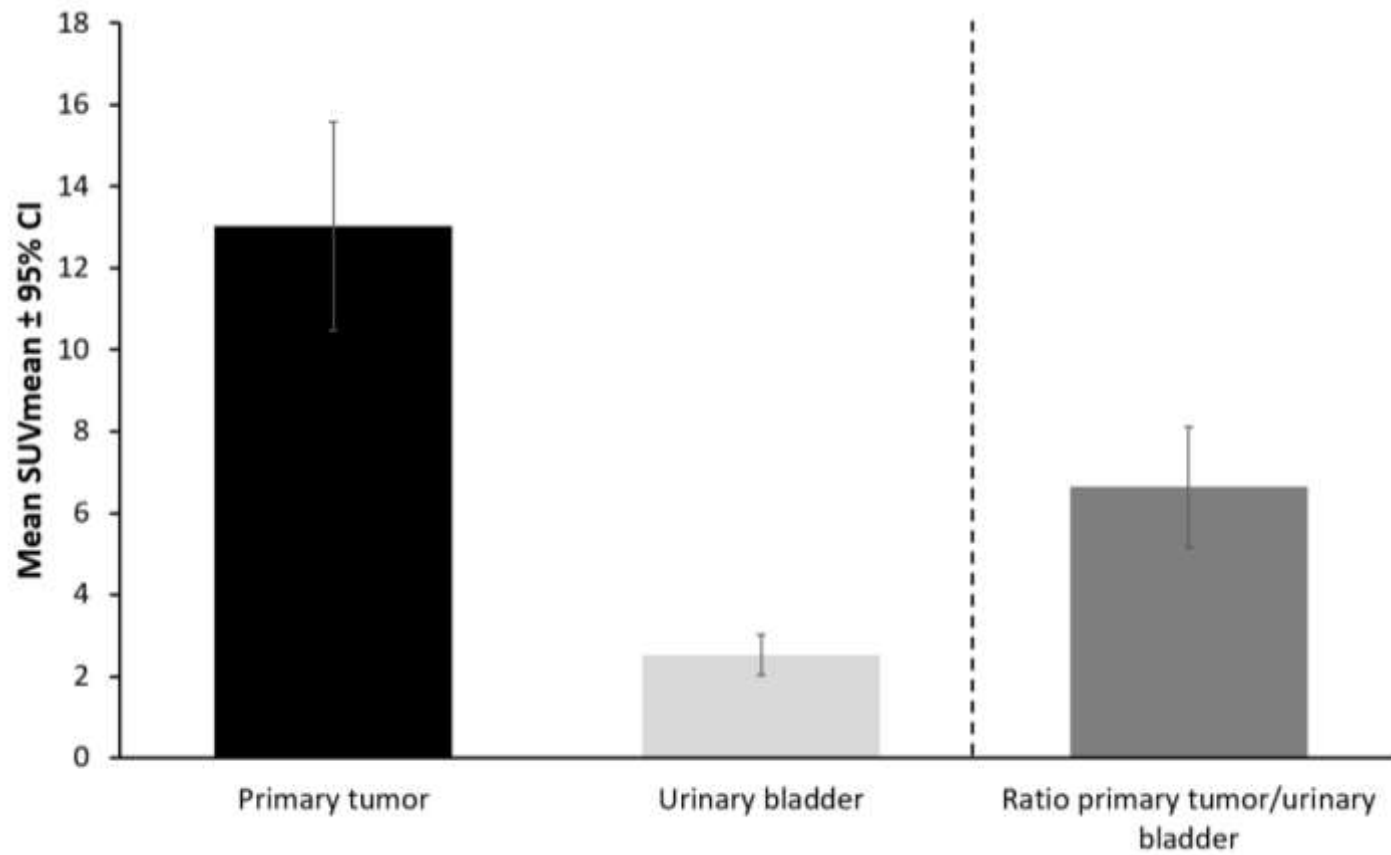
on  $^{18}\text{F}$ -rhPSMA-7.3. For Reader 2 these were 31/48 and 10/420, respectively and for Reader 3 these were 34/48 and 10/420, respectively. Morphological imaging true positive rates were 5/48 for Reader 1, 9/48 for Reader 2 and 9/48 for Reader 3, while false positives were 4/420, 9/420 and 13/420, respectively. The template-based sensitivity, specificity, and accuracy of  $^{18}\text{F}$ -rhPSMA-7.3 PET and for morphological imaging for each reader are presented in Table 3.

<b>Location of lesions</b>	<b>N patients</b>
N0, M0	156
N1, M0	42
N0 or 1, M1a=1, M1b=0, M1c=0	15
N0, M1a=0, M1b=1, M1c=0	15
M1c=1	5
N0 or 1, M1a+M1b=1 M1c=0	26
N1, M1a=0, M1b=1, M1c=0	20

**Supplemental Table 1.** Patient-based pattern of lesion distribution



**Supplemental Figure 1.** Inter-reader agreement for  $^{18}\text{F}$ -rhPSMA-7.3 and morphological imaging (CT)



**Supplemental Figure 2.**  $^{18}\text{F}$ -rhPSMA-7.3 uptake in primary tumor compared with bladder retention. Data are shown as mean SUVmean with 95% confidence intervals.