**Additional Material**

Additional file 1

Image file - .jpg

**Additional file title: PET tumor segmentation.**

**Additional file legends:** Two different PET tumor segmentation algorithms illustrated on a coronal PET-CT slice (A) displaying the lower abdomen and the bladder (b). The tumor was either outlined using a fixed threshold of 2.5 to include putative tumor voxels in the red VOI (MTV=93 mm3) or by using a 40% of the tumor SUVmax (40% SUVmax) shown by the yellow VOI (MTV=561 mm3). This specific tumor had SUVmax of 3.8 thus the segmentation thresholdwas 1.5 for this example. The matched coronal T2-weighted MRI (B) displays the tumor (white arrows) and bladder (b). The vMRI for this tumor was 403 mm3.

We chose the 40% SUVmax -segmentation method for the present study.

Abbreviations; MTV= metabolic tumor volume, SUV= standardized uptake value,

vMRI = tumor volume from MRI, VOI=volume of interest

**Additional file 2 (table, included below) –**

**Additional file 2: title** Calculated mean metabolic tumor volumes (MTV) using the two alternative segmentation algorithms and corresponding mean anatomic tumor volumes from MRI (vMRI).

|  |  |  |
| --- | --- | --- |
| PET tumor segmentation (26 scans) | | MRI tumor segmentations (26 scans) |
| MTV (mm3)  2.5 SUV; fixed threshold | MTV (mm3)  40%SUVmax | vMRI (mm3) |
| 99.2 | 389.1 | 475.2 |

Abbreviations; MTV= metabolic tumor volume, SUV= standardized uptake value, vMRI = tumor volume from MRI