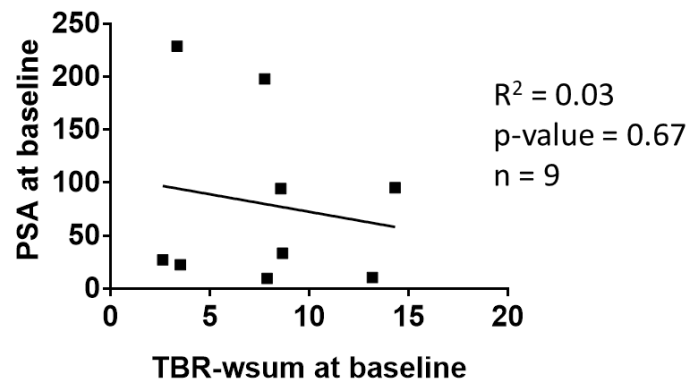
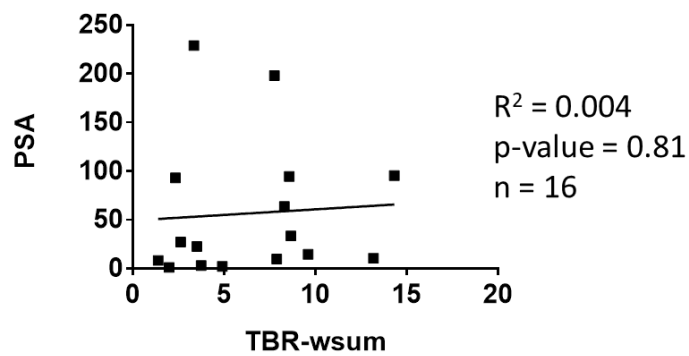


## SUPPLEMENTARY FIGURES

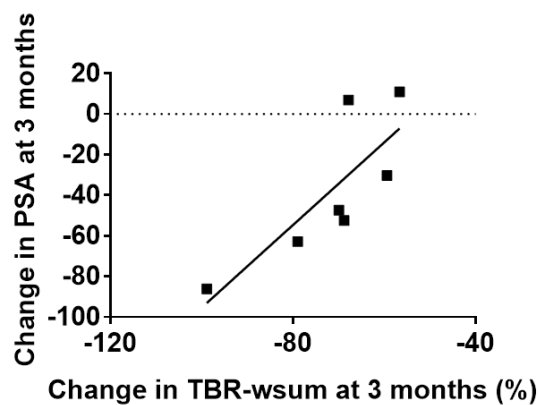
**A**



**B**

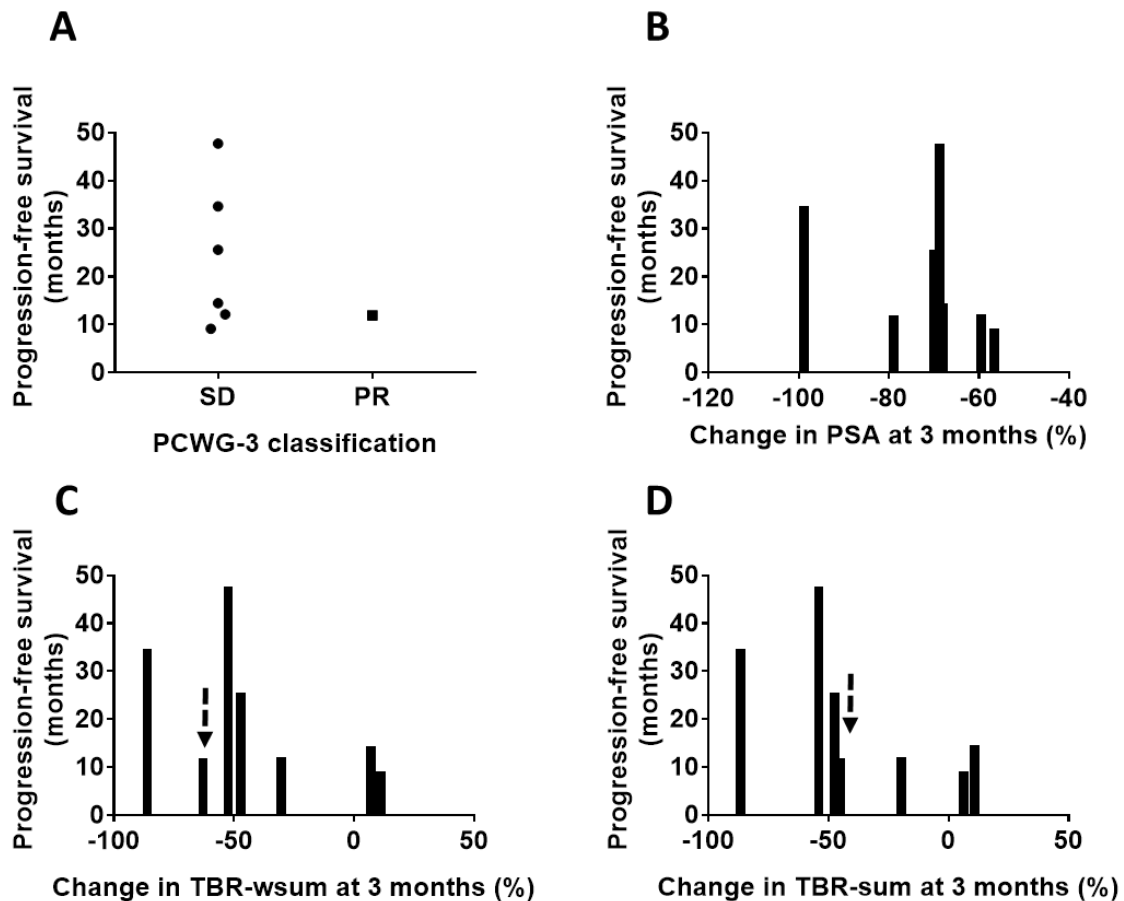


**C**



**Supplementary Figure S1.** Patient level comparison of PSA with [ $^{18}\text{F}$ ]D4-FCH PET/CT.

A) Baseline PSA and [ $^{18}\text{F}$ ]D4-FCH PET/CT derived TBR-wsum, B) PSA at any time point and TBR-wsum, and C) Change in PSA and change in TBR-wsum determined at 3 months relative to baseline.



**Supplementary Figure S2.** Patient level prediction of progression-free survival using current approaches and by [ $^{18}\text{F}$ ]D4-FCH PET/CT. A) PCWG-3 classification and progression-free survival. B) PSA change at 3 months and progression-free survival. C) [ $^{18}\text{F}$ ]D4-FCH PET/CT TBR-wsum change at 3 months and progression-free survival. Arrow represents patient #2 who had discordant conventional versus PET scoring. D) Change in [ $^{18}\text{F}$ ]D4-FCH PET/CT TBR-sum - representing sum of all lesions – rather than a weighted change. Arrow represents patient #2 who had discordant conventional versus PET scoring.